

What's in it for me?

Examining the Functional Theory of Attitudes in Recycling Messaging

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About the Author

Emily Russell has over six years of experience working in both business-to-business and business-to-consumer marketing communications. Currently, she is a Senior Marketing Communications Specialist at Ecolab within its Life Sciences division. Her work focuses on providing clean and healthy manufacturing environments that protect the integrity and safety of consumer products like medicines and cosmetics.

Emily's passion for healthy environments extends beyond the workplace to the outdoors, where she spends her leisure time running trails and swimming lakes. Her desire to sustain clean, natural places for generations to come is what sparked her interest in environmental communications, and built her belief that strategic messaging can activate a sense of environmental responsibility and ownership in others. With environmental issues escalating to disastrous proportions, she feels a sense of urgency to find and share solutions that can curb harmful behaviors and protect wildlife and natural resources.

Prior to her work in communications, Emily worked in customer service and sales support roles, providing her with a unique understanding and respect for how consumers receive and react to marketing messaging. This firsthand experience has served her well in developing compelling communications programs for both her work and personal projects. She holds a bachelor's degree in both French language and International Studies, with a focus on Global Cultures from the University of Wisconsin in Madison, Wisconsin and a Master of Arts degree in Strategic Communication from the Hubbard School of Journalism at the University of Minnesota.

Executive Summary

Recycling behaviors have been a subject of research since the 1970's, with little to no continuity in terms of messaging practices that have successfully driven action. Most recycling messages have been focused on societal implications using fear tactics and doomsday scenarios, or value based messages which encourage people to “do their part for the greater good.” Despite these pro-social efforts, US recycling activity has remained stagnant at 34%. At the same time 75% of the population reports that they do, in fact, recycle. How can we close this gap between recycling attitudes and actual behaviors? This research looks beyond the themed messages of the past and investigates the role of functional attitude appeals in influencing positive recycling attitudes and behaviors.

To study this topic, a content analysis was conducted on a sampling of 27 recycling websites and marketing materials from 11 large US municipalities and one federal agency, gathered between February 1, 2018 and April 1, 2018. Personal interviews were also conducted with 16 adults across the US in June 2018 who had access to a residential recycling program. Findings from this research support the idea that matching preferred attitude functions from the Functional Theory of Attitudes to individuals' needs can positively impact consumers' recycling attitudes and behaviors.

While both qualitative and quantitative research methods were employed to gather information on this topic, there are some limitations to this research project. Personal interviews skewed towards the West and Midwest, with limited representation from the South and Northeast. Future research should include interviews with an equal number of individuals in each region. Additionally, most people interviewed reported that they recycled; meaning research findings may not extend to non-recyclers. Future research should incorporate

perspectives from non-recyclers to understand if their attitude function preferences are similar to or different from those found in this study.

The results from this research suggest the following best practices that communicators should consider when attempting to activate positive recycling behaviors:

- Prioritize utilitarian and knowledge attitude functions in marketing messaging.
- Use ego defensive, value expressive and social adjustive attitude functions, implicitly.
- Use social adjustive and social identity attitude functions sparingly.
- Include quantifiable information to demonstrate recycling impact on consumers.
- Make information personally relevant to consumers, using language they understand.
- Include information on the benefits of recycling to society and for the individual.
- Refer to recycling as a group effort, but provide actions that individuals can take.
- Provide links to additional information on all materials.

Introduction

Recycling, defined by Park and Ha (2012) as “a consumer’s performance in differentiating collection and refusing disposal of consumable items for recovery of materials or energy” has been in America since the colonial era (p. 389). However, in those times, resources were more scarce and reusing or limiting waste stemmed more from necessity than it did from a pro-social or environmental point of view (Waxman, 2016). As time went on and resources became more readily available, this act of limiting waste became less urgent to Americans; “The idea that you threw stuff out when it wore out is a 20th century idea” (Waxman, 2016). This modern consumer mindset has tripled the amount of waste generated over the last 77 years (Tierney, 2015), generating serious concerns about what to do with the waste, and how to protect and sustain what natural resources we still have left.

Focused efforts to curb wasteful activities picked up steam in the 1970's with the creation of Earth Day and the Environmental Protection Agency (Waxman, 2016). Since then, the US has experienced an uptick in pro-recycling messaging that has helped increase the national recycling average from just 6% in 1970, to 34% in 2014 (US EPA, 2017). However, over the last decade the recycling rate has begun to plateau ("The Truth About Recycling," 2007). With such a low recycling rate, one would expect Americans' attitudes towards recycling to be mostly negative or indifferent; however, two thirds of Americans surveyed in 2014 reported that they recycled in some way (Killinger, 2014). Herein lies the problem: *there is dissonance between what consumers state as their attitudes towards recycling, and their actual behaviors.*

Over the years, a combination of theoretical and atheoretical approaches have been taken in an attempt to improve recycling attitudes and behaviors ranging from educational communications (usually the first point of intervention) and pro-social messages ("Save the Earth for future generations") to fear appeals and threats ("Our rainforests are disappearing") (Kazdin, 2009). While these strategies may be successful in reaching the one third of Americans who recycle, it still leaves 66% unengaged with tremendous opportunity to activate (US EPA, 2017). With environmental challenges escalating, the application of psychology to influence pro-environmental attitudes and behaviors has recently become an area of special interest (Kazdin, 2009; Venhoeven, Bolderdijk, & Steg, 2016). This new theory-based approach has generated a wave of scientific studies focused on reducing the gap between attitudes and behaviors on key social issues like environmentalism.

Recycling, specifically, has not been a central topic of research so much as it has been mentioned as part of a larger research effort focused on green consumer behavior. "Green" in this context means eco-friendly or eco-conscious, and is often used interchangeably with the

terms sustainable, environmental and pro-environmental. While recycling behaviors may seem different from green purchasing behaviors, the two are actually quite similar because purchasing and recycling are both voluntary environmental behaviors that need to be influenced or “sold” in order for people to take action (Venhoeven, Bolderdijk, & Steg, 2016; Shrum, Lowrey & McCarty, 1995). As a result, this research has been largely informed by green marketing studies, from which the researcher has identified an opportunity to treat recycling as a product being sold to consumers.

Many approaches to green persuasion have focused on the product instead of consumer wants and needs, and pro-social or future benefits rather than immediate benefits to the individual (Villarino & Font, 2015). There is no literature committed to exploring the Functional Theory of Attitudes on the individual and its direct application to persuasive recycling messages; however, a number of studies mentioned that such a study would be a valuable pursuit including Kazdin (2009), Minton, Lee, Orth, Kim and Kahle (2012), Villarino and Font (2015) and Whitmarsh and O’Neill (2010).

The purpose of this study is to investigate how the 6 different attitude functions of the Functional Theory of Attitudes may be integrated into strategic communications to improve both pro-recycling attitudes and behaviors. If communicators can identify the attitude functions that appeal the most to potential recyclers, then they can better match messaging to those needs and help persuade an individual’s attitudes and behaviors, meaning “influence others by modifying believes, values or attitudes,” in favor of recycling (Villarino & Font, 2015, p. 327). Recycling is considered a catalyst to other pro-environmental behaviors (Whitmarsh & O’Neill, 2010), so while recycling is just one response to waste management, this research could provide findings that reach beyond this particular aspect of green living and promote other sustainable activities to

the benefit of both the individual and society as a whole (Baca-Motes, Brown, Gneezy, Keenan & Nelson, 2013; Minton et al., 2012).

This leads to an important question: What is the relationship between the different functional motivators of recycling, and the receivers' attitudes and behavioral intentions towards recycling?

Literature Review

Functional Theory of Attitudes

The literature review begins first by defining what the Functional Theory of Attitudes is and what each of its 6 attitude functions represent. Next, it looks at how this theory intersects with both attitudes and behaviors within the context of environmental issues.

The Functional Theory of Attitudes helps us understand “why people hold the attitudes they do” and how those attitudes can influence actions or behaviors (Perloff, 2014, p. 117). This is based on the idea that attitudes can serve functions for people, or fulfill needs that help them to navigate through the world (Perloff, 2014). Attitude functions may also be defined as incentives, rewards, stimuli, motives, benefits and appeals. The definition of appeals is particularly helpful in understanding the role of functions because it highlights the importance of emotion in persuasion; “appeals are emotional and have a higher chance to grab the attention of the target and trigger behavior” (Villarino & Font, 2015, p. 328). This suggests that functions may tap into motivations behind attitudes in order to influence behavior.

The concept of ‘functions’ was first identified by Daniel Katz in a 1960 study on attitudes and public opinion, in which he proposed that 4 different functions existed that attitudes could provide on a psychological level: Utilitarian, Ego Defense, Value Expression, Knowledge (Katz, 1960). Richard Perloff (2014) includes 2 more determinants to this list: Social Adjustive and

Social Identity. Table 1 provides the conceptual and operational definitions for these 6 attitude functions and explores example manifestations of each as they relate to recycling. The conceptual definitions originate from the literature, whereas the operational definitions and examples derive from recycling messaging found across a sampling of U.S. municipalities.

Table 1. Attitude functions served by recycling			
Attitude Function	Conceptual Definition	Operational Definition	Examples
Utilitarian	An individual seeks to obtain external rewards while avoiding punishments.	Reference to rewards for recycling (like a cleaner environment) or punishment if you do not do it (run out of natural resources or “it’s the law”)	An individual recycles as a means to reduce environmental impacts in order to protect one’s health or avoid a fine.
Ego Defensive	An individual works to defend against unpleasant emotions.	Reference/Implication to “do your part” or “it’s your responsibility to recycle.”	An individual recycles to reduce feelings of guilt for uncomfortable truths, like not acting “green.”
Value Expression	An individual wants to express their core values and beliefs. It is part of their personal norm, normative belief and/or self-expectation and perception.	Reference/Implication to your values as an environmentally conscious person.	An individual recycles because they believe they have a responsibility to do so; this is who they are.
Knowledge	An individual seeks to make sense of the world so that they know how to navigate through it.	Reference to “how,” “what” or “why” to recycle, or educational information like “did you know?”	An individual recycles because they know how and what to recycle. There is order and this makes sense.
Social Adjustive	An individual seeks acceptance from others/camaraderie/normative pressures.	Reference/Implication that surrounding groups of people recycle; “we” collectively as a municipality recycle.	An individual recycles as a means to fit in with neighbors, peers or other community members.
Social Identity	An individual aspires to communicate or draw attention to something special about themselves to others; who they are or who they aspire to be. It is a way to manage their image.	Reference to sharing the message with others or being a spokesperson or advocate for the recycling cause.	An individual recycles in order to tell others that they’re “green” or environmentally responsible.

(Katz, 1960; Perloff, 2014; Clary & Snyder, 1999)

Later, in a 1999 study by Clary & Snyder, researchers applied the concept of attitude functions directly to volunteering scenarios, adding 3 key insights to the Functional Theory of Attitudes. First, the theory is a “motivational perspective that directs inquiry into the personal and social processes that initiate, direct, and sustain action” (p. 156), meaning attitude functions can serve as motivation towards action. Second, “people can and do perform the same actions in the service of different psychological functions” (p. 156), which tells us that there can be more than one motivation for voluntary behavior. Third, “psychological events ...depend on matching

the motivational concerns of individuals with situations that can satisfy those concerns” (Clary & Snyder, 1999, p. 156). In other studies, this same concept of matching message appeals to individuals has also been emphasized (Hardeman, Font, & Nawijn, 2017). This means that the best way to motivate an action is to deliver an individual’s preferred, personal attitude function to them in order to fulfill a need within a particular situation (Clary et al., 1998; Villarino & Font, 2015).

While the collective result of the Functional Theory of Attitudes may have implications for wider public opinion as Katz studied in 1960, its focus is on the individual and understanding which function(s) their attitude serves (Katz, 1960). This is a helpful tool for communicators to change or strengthen attitudes in favor of recycling. In an article by Salhofer and Isaac (2002), the motivation of the individual user is highlighted as an essential component to a successful effort to change recycling behaviors (Salhofer & Isaac, 2002). A 2007 study by Lorož supports this motivation behind the individual, explaining that “the self (is) known to be one of the richest, most developed networks in memory” (Lorož, 2007, p. 1005), which consequently results in higher levels of involvement and more successful persuasion (Villarino & Font, 2015). This study also suggests that “for prosocial advocacies in particular, it would seem critical to address the impact of appealing to the individual” (Lorož, 2007, p. 1005). As Villarino and Font (2015) explain, we need to consider that the audience is going to ask themselves, “what’s in it for me?” (p. 333).

With individual motivations established as a key component to recycling persuasion, communicators need to understand which appeals to include in their messaging. The first research question of this study aims to answer:

RQ1: Which attitude functions resonate most to people within the context of

recycling?

It is equally important to understand what kinds of recycling messages exist currently and which, if any, attitude functions are being leveraged to persuade participation in recycling. This leads to the second research question of this study:

RQ2: Which attitude functions are most represented on current websites and marketing materials?

Despite evidence that individual benefits can drive recycling, it's unclear whether the primary force behind participation in sustainable actions is the self or the other (Clary & Snyder, 1999); attitude functions can be multifaceted and difficult to classify as either egoistic or altruistic (Minton et al., 2012). In some studies on other individualistic societies like Italy, Austria and Czech Republic, researchers have actually found a positive relationship between valuation of "self-transcendent, prosocial, altruistic or biospheric values" and the likelihood of participating in pro-environmental behavior, meaning the self is of little consequence (Steg & Vlek, 2009, p. 311). These findings suggest that while focused attention on the individual is important, there may still room for the individual to be motivated to take action for the sake of the social good. This begs the question of whether communicators should concentrate their messaging on benefits to the individual or society as a whole. Research question 3 asks:

RQ3: Are individuals more motivated by individual or collective benefits?

Next, this study looks at how attitudes and behaviors intersect within the context of recycling.

Recycling Attitudes

Attitude is defined by Daniel Katz (1960) as "the predisposition of the individual to evaluate some symbol or object or aspect of his world in a favorable or unfavorable manner"

(p.168). The literature distinguishes between two kinds of attitudes: cognitive, which best matches Katz' definition, and evaluative or affective, which is a "feeling-based evaluation" (Park & Ha, 2012, p. 393). Both kinds are important considerations when attempting to change attitudes, especially when attempting to make people feel a certain way about a topic that they may not be interested in currently (Kazdin, 2009).

Attitudes do not necessarily equate with behaviors, so regardless of how a person thinks or feels about a topic like recycling, theorists and psychologists agree that it may not reflect in their actions, although it is a good indicator (Perloff, 2014; Baca-Motes et al., 2013; Park & Ha, 2012; Kazdin, 2009; Minton et al., 2012). Because of this disconnect, this study includes a second variable to gauge the effects of attitude change on recycling behaviors, putting theory into practice.

Recycling Behaviors

Behavior is defined as the action that a person takes in a particular situation (Perloff, 2014). Because attitude is an indicator and not a guarantee of specific behavior (Baca-Motes et al., 2013), fostering pro-environmental behavior and specifically the act of recycling based on attitudes is no easy task, but it is an important one to investigate (Kazdin, 2009). As Alan Kazdin (2009) explains, "excellent conservation ideas remain merely ideas if one cannot get people to adopt them" (p.343). How do we help strengthen this relationship between attitudes and behaviors in the environmental realm? To help answer this question, this study investigates the degree to which these two variables match within the context of recycling:

RQ4: To what extent do peoples' attitudes about recycling align with their behaviors towards recycling?

Pro-environmental behavior doesn't have to be driven by environmental concern. In fact,

studies have shown that there is low correlation between what people know about environmental problems and how they behave (Kazdin, 2009). This suggests that following through on the recycling action should not hinge on whether an individual's attitude is formed based on an interest in pro-social environmental concern or a function of the self. As long as the benefit of recycling is matched to an individual's motivations, it can help drive behavior (Clary & Snyder, 1999).

My aim in conducting this study is to identify individuals' priority functions, those appeals that resonate best with individuals, so that communicators may incorporate them into messaging to better change or reinforce individuals' attitudes in favor of recycling and effectively translate those attitudes into recycling behaviors. Because recycling can be a catalyst for other green behaviors, persuading individuals to recycle could lead to broader impact and a more sustainable environment. As a result of this literature review, the hypothesis for this research is: Recycling messages that match the functional motivation(s) of the message receiver will positively affect attitudes towards recycling and improve intention to adopt recycling behaviors.

Method

To test this hypothesis and better understand which functional appeals motivate people to recycle, this study utilized a mixed-methods approach to understand how communicators are currently approaching recycling messaging and uncover how individuals are responding to those messages.

Content Analysis

The first method employed was a content analysis on existing recycling websites and materials to investigate message characteristics and functional motivators represented in current

recycling messaging. This study considered content from a sampling of 11 large US municipalities and one federal agency, gathered between February 1, 2018 and April 1, 2018. To be included in the sampling, the city needed to be located within 1 of the 4 primary census regions in the US, be large enough to have an independent residential recycling program, and have a website and sufficient materials to consider from that recycling program. Effort was made to represent each region with an equal number of cities, although some regions had fewer qualifying cities to select from.

The Midwest sampling included 12 materials from Minneapolis, MN, St. Paul, MN and St. Louis, MO. Region South included 2 pieces from Austin, TX and Raleigh, NC. The Northeast sampling consisted of 2 materials from Philadelphia, PA and Boston, MA, while region West included 7 pieces from Seattle, WA, Portland, OR, Denver, CO and San Francisco, CA. The Federal Agency selected is the one most directly involved with national recycling programs, the United States Environmental Protection Agency (US EPA), from which 1 material was reviewed. In total, 27 different pieces of content were reviewed including 12 websites (1 from each city and the EPA, and each counting as a single piece of content), 9 direct-mail pieces, 2 newsletters, 2 e-newsletters and 2 posters.

A coding sheet (Appendix 1) was used to evaluate each piece methodically, and is included in the appendices section of this study along with a summary of the content analysis results (Appendix 3). The coding sheet recorded what type of communication each piece was, which municipality it originated from and which organization or group created it. It also considered whether or not the piece invited the audience to stay connected and/or learn more about the recycling program through contact forms, social media, newsletters and video. Next, it looked at the messaging, noting headings, specific marketing campaigns created for residential

recycling, the intended audience and the overall purpose of the piece - was it emphasizing how to recycle, what to recycle, or why to recycle? These are important distinctions because they can provide insights into which functional motivation(s) are present within each piece. The motivational theme section of the coding sheet aimed to confirm this by recording which of Katz's 6 functional attitudes from the Functional Theory of Attitudes were present. These are not mutually exclusive, so there could be multiple functional attitudes in each piece. The identification of each functional attitude messaging was enabled by referencing Table 1: Attitude functions served by recycling (also available in Appendix 2), while the coding sheet provided 4 levels of inclusion to record the extent to which they were present: emphasized (meaning it was prominent and the primary theme of the piece with more than one mention), mentioned (meaning it was present in one instance, but is not the primary theme of the piece), implied (meaning it existed, but not explicitly), and not at all (meaning it was not present anywhere in the piece either implicitly or explicitly). The final two sections of the coding sheet aimed to measure whether the piece focused on the individual or collective group in terms of message direction and recycling benefits. A summary of the content analysis results is available in Appendix 3.

Personal Interviews

A second research method, personal interviews, was also conducted to provide insights into individual's attitudes and behaviors towards recycling, their reactions to current recycling messaging, and their preferences across the 6 attitude functions from Katz's theory. Eighteen people currently residing within 1 of the 4 major US census regions, and who fell into 1 of 3 age groupings (18-39, 40-62 and 63+) were contacted to participate in the interviews. This was a convenience sampling and included friends, work colleagues and family of the researcher as well as those of the researcher's classmates and work colleagues in order to collect a more diverse set

of perspectives. Of the 18 who were contacted, 16 people agreed to participate in the study, which included 9 people 18-39 years old, 3 people 40-62 years old and 4 people 63 years old and above. Seven were located in the Midwest, 1 in the South, 2 in the Northeast and 6 in the West. Six were men and 10 were women and a screening question was posed in the welcome email to ensure that all interviewees had access to a residential recycling program where they lived, to which all 16 confirmed that they did.

The interviews were conducted in June 2018. Local participants were given the option to be interviewed in person at either a meeting place of their choice or over the phone, while non-local participants were interviewed over the phone. Three interviews were ultimately conducted in person and 13 over the phone, each lasting approximately 30 minutes.

The interviews were structured to include verbal questioning that at times referenced a questionnaire document (Appendix 5) that was shared by email with each participant ahead of the interview. This combined questionnaire and interview method allowed for more in-depth questioning when interesting remarks were made, while also allowing for quantitative measurements on items like attitude. It was requested that each person have access to either a printed or digital version of that document during the interview so that quantitative and message testing questions could be both seen and heard during the interview. The full set of interview questions, including those from the questionnaire, is available in Appendix 4.

The interview questions were organized into 7 primary sections that first examined the participants' cognitive and affective attitudes towards recycling. Cognitive attitude was measured using a 7-point semantic differential scale, and affective attitude was measured using a 5-point Likert scale. Both were adapted from a 2012 survey by Park and Ha that studied environmental behavior (Park & Ha, 2012). This was followed by questions that gauged respondents' opinion

on who benefits from recycling, requested details on their personal recycling behavior, investigated their priority or favorite attitude function based on recycling message testing, and tested their preferred pronoun within a recycling context using directional message testing. The interview concluded with 2 demographic questions.

Both the interviews and corresponding questionnaire sheets were transcribed by the researcher, relieving participants of the need to return something back at the conclusion of the interview. Transcriptions were stripped of any identifiable names to protect respondents' privacy and can be located in Appendix 6.

Research Findings

The research findings will first summarize the results from the content analysis, followed by a close look at the interview responses.

Recycling Messaging Content Analysis

Material Origins

The materials studied as part of this content analysis were generated within 3 categories of city departments: public works, solid waste management or a miscellaneous group with ties to environmental protection. Of the 11 cities studied, just 2 cities shared a common department name for recycling: the City of Boston Public Works and the City of St. Paul Public Works. In all other cities, recycling appeared to fall under a variety of other departments including public utilities, public health, streets department, recycling and energy, planning and sustainability, solid waste and recycling, natural resources and resource recovery.

The materials were collected either from the city website, or by contacting the email address provided in the contact sections of the website. Interestingly, printed materials weren't always available in digital form on the websites. Of the 13 printed pieces, 5 (38%) were

available to the researcher only by requesting them through customer service; otherwise, they would only be available to residents through the mail. The titles of the individuals who replied to inquiries for additional information were primarily entry-level roles like program specialists, associates, coordinators and aides.

Material Types & Characteristics

The materials were analyzed in 2 categories: print and digital. Print included 13 pieces ranging from 1-22 pages in length, with most including 1-4 pages. This included direct mail pieces like recycling guides, flyers, pamphlets, utility bill inserts and newsletters. There were also posters that could be put on display above recycling cans or in yards. Digital included 14 examples of both websites and e-newsletters. Websites ranged from a single landing page to 40 plus pages of recycling content, with 11 out of 12 websites (91%) hosting 10 to 40 plus pages.

The inclusion of social links, email or newsletter subscription forms, contact forms or information, web links/listings and video was stronger on the digital platforms; however, printed materials did include digital aspects into its content as well. Table 2 shows that while video wasn't an option and subscription information wasn't readily available on print, 10 out of 13 print items (76%) included clear instructions on how to contact the organization for more information including web links back to its website, and 6 out of 13 (46%) included social media icons. Some digital options failed to include those items despite the increased accessibility to such tools on those platforms. Six of the 14 digital materials (42%) included between 1 and 10 videos on their websites, most of which addressed what to recycle and what happens to both recycling and garbage once it's picked up by waste management services.

Table 2. What is included in the materials									
Present	Social Media Links		Subscription Option		Contact Us Option		Web Links		Video
	Print	Digital	Print	Digital	Print	Digital	Print	Digital	Digital
Yes	6	13	2	8	10	13	13	12	6
No	7	1	11	6	3	1	0	2	8

Besides the differences listed above, other content characteristics and especially messaging across both print and digital were largely the same (Table 3). Of the 86 headlines sampled, 51 (59%) referred directly to how and what to recycle with no noticeable differences between digital and print. Examples of commonly used headlines include, “What can be recycled,” “View your collection schedule” and “Recycling & composting FAQs.” Beyond the headlines, instructions on how to recycle were included in every piece of literature, except for 1 (3%). 21 of those 27 pieces (77%) emphasized the topic of how, meaning it mentioned it more than once while 5 others (18%) mentioned it just once. The topic of what should be recycled was equally present in the materials with 22 of the 27 pieces (81%) emphasizing it and 4 (15%) mentioning it once. Interestingly, an explanation of why one should recycle was less common in the sampling. Just 5 of the 27 pieces (18%) emphasized this point. Sixteen others (59%) mentioned it once, but it was positioned as a secondary message to reinforce what and how to recycle, like “it reduces the amount of garbage” or “it’s the law.” Twenty-one of the 86 sampled headlines (24%) represented these single mentions of why as well, for example “Austin Recycles,” to “Keep Denver Beautiful” or “Recycling is the thing to do!”

Table 3: What the purpose of the piece was						
Level of Presence	How to recycle		What to recycle		Why to recycle	
	Print	Digital	Print	Digital	Print	Digital
Emphasized	8	13	9	13	2	3
Mentioned	4	1	4	0	8	8
Not at all	1	0	0	1	3	3

While recycling is a global topic, most of the materials focused their messaging on the impact it could have on a local level. Sixteen of the 27 pieces (59%) addressed recycling within just the city or county environment, 9 (33%) expanded to the state level, 1 (3%) addressed the national environment, and 1 (3%) extended its message to include a global perspective. In investigating the benefits of recycling, it was found that 15 of the 27 pieces (55%) spoke to the collective benefits for society as a whole, and none provided personal benefits to the individual alone. Four pieces (14%) provided both collective and personal benefits, and 8 (30%) never provided any benefits at all. The marketing campaigns used in the materials support this collective approach with slogans like, “2018 All In: St. Paul Recycles,” “Saint Louis City Recycles,” “SF Recycles” and “Denver Recycles.” In fact, of the 11 cities in this study, 9 have campaign slogans referring to the city recycling, together. In contrast, the pieces frequently addressed their messaging to the individual rather than to the group; 21 of the 27 pieces (77%) spoke to the audience as “you” while just 4 (15%) spoke of action coming from “us” or “we” the community.

Visually, photographs of what could be recycled and which waste receptacle it belonged to were the most common. Children were often incorporated into the imagery as well, although most messages were intended for adults and were likely incorporated to help get families involved in good recycling habits.

Attitude Function Messaging

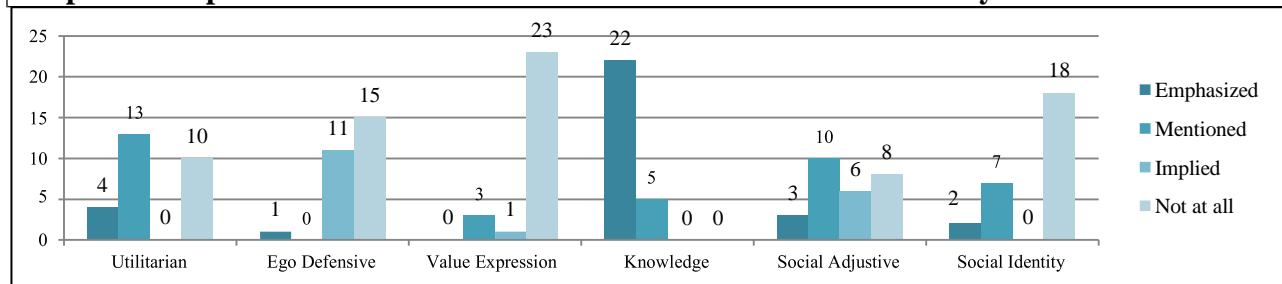
The final portion of the content analysis considers the presence of attitude functions in the sample set of 27 materials. Table 4 breaks out how many print and digital pieces from the sampling reflected an attitude function from Katz’s theory, while Graph 1 shows the totals. As the method section of this study explained, each piece was evaluated for all 6 attitude functions

as either emphasized, mentioned, implied or not mentioned at all. This was done because each piece could have included more than one attitude function.

Table 4: The presence of attitude functions from the Functional Theory of Attitudes in print vs. digital

Level of Presence	Utilitarian		Ego Defensive		Value Expression		Knowledge		Social Adjustive		Social Identity	
	Print	Digital	Print	Digital	Print	Digital	Print	Digital	Print	Digital	Print	Digital
Emphasized	2	2	1	0	0	0	9	13	2	1	1	1
Mentioned	6	7	0	0	0	3	4	1	5	5	2	5
Implied	0	0	7	4	1	0	0	0	3	3	0	0
Not at all	5	5	5	10	12	11	0	0	3	5	10	8

Graph 1: The presence of attitude functions from the Functional Theory of Attitudes totals



The utilitarian attitude function was emphasized in just 4 out of 27 pieces (15%); however it was also mentioned once in 13 other pieces (48%). From these 17 examples, 30 messages were recorded to better understand whether they focused more on individual or collective benefits, reaping rewards or avoiding punishments. This indicated that 15 out of the 30 (50%) featured collective rewards like, “your efforts help to reduce trash sent to landfills, save natural resources, save energy, reduce pollution and greenhouse gases.” Alternatively, just 3 out of the 30 (10%) featured individual rewards like, “you may be able to save money by getting smaller or fewer garbage carts.” Punishments were also highlighted, with 7 out of 30 (23%) talking about collective punishments. For example, “when materials are not reused or recycled and sent to the landfill, valuable resources are wasted and greenhouse gasses are emitted into the atmosphere.” Individual punishments represented 5 out of the 30 sampled messages (16%) and

frequently related to fines, “if you don’t comply with our regulations, you may receive a “green ticket” from our Code Enforcement Division.” See Figure 1 for an example:



Figure 1: Example of Utilitarian Attitude Function from San Francisco, CA

Ego defensive was never explicitly mentioned in 15 out of 27 pieces (55%), but it was implicitly referenced in 11 (40%). For example, "if an average family of four were to recycle all of its mixed plastic waste, nearly 340 pounds of carbon equivalent emissions could be reduced each year," or "half of what St. Louis residents throw away in the trash can easily be recycled," which implicitly induce feelings of guilt for readers who do not recycle as often as they could. In 1 piece it was emphasized that recycling “is the thing to do,” which is a good example of motivating readers to avoid uncomfortable truth by recycling.

The value expression attitude function had the smallest presence with 23 out of 27 pieces (85%) never mentioning it at all; however, it was mentioned in 3 out of 27 (11%). One example was the city’s reminder that "you know the importance of saving energy and resources by recycling as much as you can," which expresses the reader’s values and beliefs for them.

It was found that the knowledge attitude function had the highest emphasis across all of the pieces (22 out of 27 pieces or 81%), providing instructions on how and what to recycle as

featured in Figure 2. A common example was, “what goes in your blue bin and what doesn’t?” as well as educational information around the larger story of recycling like “San Francisco diverts 80% (1,593,830 tons diverted in 2010) of its discards from the landfill.” This keeps readers informed on how to participate and how to make sense of recycling.



Figure 2: Example of the Knowledge Attitude Function from Denver, CO

Social adjustive was mentioned in 10 out of 27 pieces (37%), but only emphasized in 3 (11%). An example of this was, “the City of Portland has a goal to reduce waste and to raise the recovery rate to 90 percent by 2030.” This social goal for the city was popular across the 11 cities that I studied. In fact, 6 out of the 11 (54%) had sustainability goals just like this one. Figure 3 is an example of this.



Figure 3: Example of Social Adjustive from Philadelphia, PA

Another example of social adjustive was a campaign that invited people to join their neighbors and pledge to recycle with their community, like we see in Figure 4: "2,513 of your neighbors have taken the pledge to recycle - count me in!" Similar to ego defensive, social adjustive was also included implicitly in 6 out of 27 pieces (22%). An example of its implicit use includes the campaign titles reviewed in the previous section, like "Minneapolis Recycles." This implies that people in Minneapolis do recycle, and that as a Minneapolis resident you should also in order to fit in with normative pressures.



Figure 4. Example of Social Adjustive from St. Louis, MO

Social identity was referenced in 9 pieces, and asked people to take on a leadership role as a recycling ambassador that would draw attention to them as recyclers and help them share their message with others. For example, being a Philacycler Captain, a Zero Waste Block Leader, a Recycling Block Leader, or a recycling pledger like we see in Figure 5.



Figure 5. Example of Social Adjustive from St. Louis, MO

In summary, the knowledge attitude function had the strongest presence across this sampling of materials. It was emphasized or mentioned in all 27 pieces. While social adjustive had fewer instances of emphasis or mention, its implied messaging made it the second most present attitude function. Utilitarian was third, ego defense was fourth, social identity was fifth and value expression was the sixth and least common.

Recycling Messaging Interviews

Recycling Attitudes

To begin the interview, all 16 respondents involved with the study were asked to rate their attitudes towards recycling, the results of which were largely positive. When testing cognitive attitudes, 15 out of 16 respondents (93%) rated the activity as highly good, 16 out of 16 people (100%) rated it as highly wise and 15 out of 16 (93%) rated it as highly favorable. One person (6%) reported that recycling was a generally bad rather than good activity and that they were neutral on its favorability. Similar results were found when testing respondents' affective attitudes. When asked if recycling made them feel good, 14 out of 16 people (87%) strongly agreed or agreed, with 2 out of 16 (12%) saying they felt neutral. When asked if recycling made them feel pleasant, 9 out of 16 people (56%) strongly agreed or agreed, with 6 out of 16 (37%) reporting they felt neutral and one (6%) saying they disagreed. When asked if recycling made them feel positive, 15 out of 16 (93%) strongly agreed or agreed, and one (6%) felt neutral. Finally, when asked if recycling made them feel satisfied, 13 out of 16 (81%) stated that they strongly agreed or agreed, and 3 (18%) felt neutral.

Recycling Beneficiaries

Respondents were then asked to identify who they felt were the beneficiaries of recycling. The three most common answers were variations of everyone (12 mentions), nature

or earth (6 mentions), and future generations (4 mentions). All were collective, social good responses with the exception of one, which suggested that companies who used recycled materials in their products were the real beneficiaries. Respondents were then asked if they would be interested in learning how they could personally benefit from recycling. Fourteen people (87%) replied that they would, and 2 out of 16 (12%) responded that they would not - one citing that it couldn't benefit them individually. For those who responded with yes, most expressed that they hadn't thought of that before or that they knew very little of personal benefits, except that some states will pay for aluminum can returns.

A Description of Recycling Services and Behaviors

A pre-qualification question for this interview was that respondents needed to have access to a residential recycling program where they lived. All but one (93%) reported that they did use the recycling services available to them, and most reported that they had pick up where they lived with 2 out of 16 (12%) reporting that they drive their recycling to a drop-off site in their city. Five themes arose when asked why respondents chose to recycle, the first and most prominent being that they simply wanted to because "it's the right thing to do" or "it's become necessary". The second largest reason cited was because they didn't have room in their trash to throw recyclables in it, "I can't get everything into the regular garbage and it costs a lot per month to get an extra garbage can." Other common reasons included feelings of guilt if they didn't recycle, the fact that it was required to recycle where they lived, and that recycling was simply routine for them and they participated because they always have. The respondent who did not recycle explained, "I just don't have that much to recycle...and maybe laziness, let's not lie."

When asked to describe the recycling program that was available to them, just under half

of respondents (7 out of 16, or 44%) demonstrated a strong understanding of how their recycling worked while 9 out of 16 (56%) lacked clarity. The largest area of confusion was around process and what happens to recyclables. For example, “I did hear that a lot of [recycling] does go back into the garbage because they’re getting more recyclables than they can handle. I hope that’s not true...but I haven’t heard anything on that recently.” A second area of confusion and frustration revolved around what could be recycled, while a third area was whether or not recycling services cost them any money.

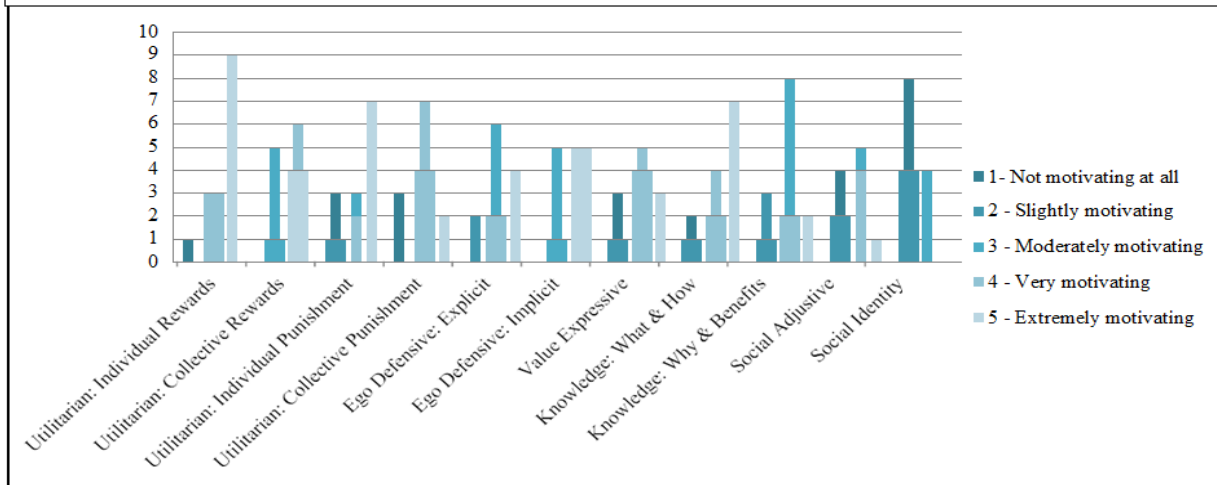
Recycling Recommendations

The subsequent set of interview questions asked respondents what cities could do to make them increase their recycling efforts. Responses resulted in seven recommended actions. First, provide more education on what to recycle, especially to multi-unit housing like apartments. As one respondent explained, “It just takes it deeper when you educate people on why x goes into the bin.” The individual who did not recycle currently stated, “I would probably start recycling if I knew the stuff that should be recycled, immediately.” A second recommendation was to provide more education on what happens to the recycling once it’s picked up, “...because it isn’t posted anywhere that ‘this is what happens to the items you recycle’ ...I don’t know what happens to it. I have no idea, but I want to know.” Thirdly, streamline acceptable recycling materials. As one person lamented, “...what to recycle seems different everywhere you go.” Fourth, make recycling easier with single sort recycling bins that pick up at your home. Fifth, make recycling free. As one interviewee shared, “for all the work we put into it, I don’t think we should have to pay for it.” The sixth recommendation was to provide an incentive to recycle, and “letting people know the benefit to them personally.” Another person suggested, “maybe an incentive towards something else you could use that you

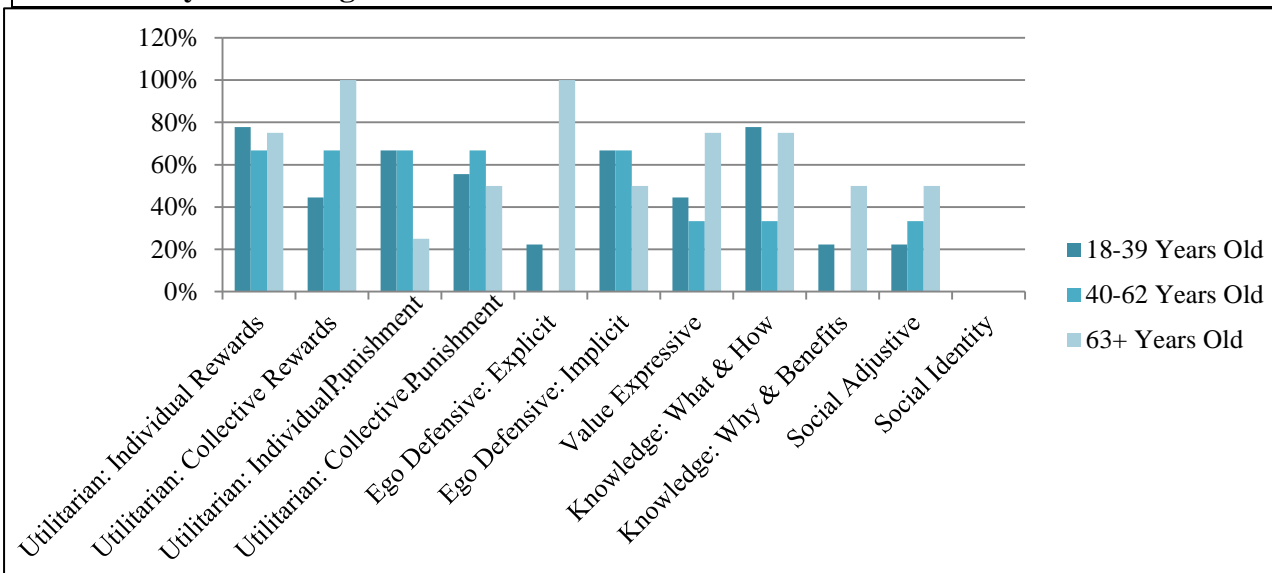
have to get through the city. Maybe the water bill?” The seventh and final recommendation that came to light was providing more education on why to recycle; “the way they do it now is ‘you should do it,’ but there’s no *why*.”

Attitude Function Message Testing

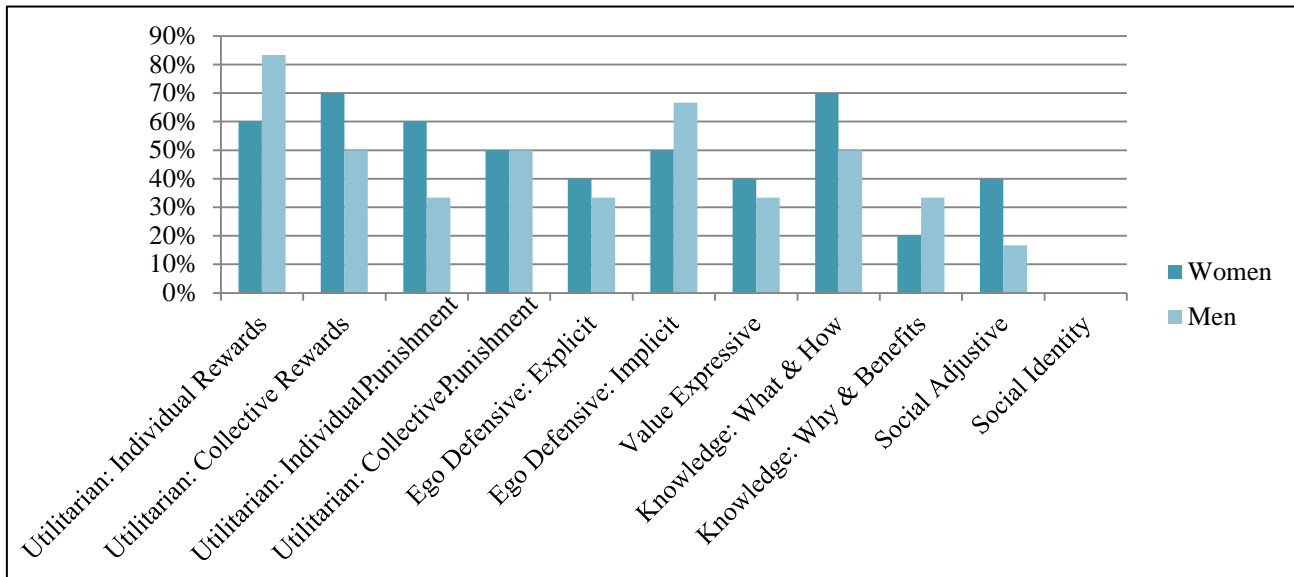
To understand which functional attitudes appealed the most to respondents, 11 messages were tested that represented an example of the 6 attitude functions within the context of recycling. These messages were either taken directly from existing marketing materials found in the content analysis, or based on them. Some attitude functions like utilitarian were expanded to include multiple messages in order to explore various dimensions of the attitude function. For example, both rewards and punishments were tested to see whether one was more appealing over the other. In addition, the implications of collective rewards and benefits was tested against individual ones to see if there was a preference between those as well. The ego defensive attitude function also included 2 messages to investigate both its explicit and implicit use, which was discovered as part of the content analysis. Graph 2 and Table 5 describe interviewees’ self-assessment on the extent to which they believed these messages would motivate their personal recycling behavior, and the following analysis ranks the results based on the sum of the votes within the very and extremely motivating categories, which indicated a positive response. Graph 3 describes how positively each attitude function compares across age groups, charting the percentage of people within each age group who ranked the attitude function either very or extremely motivating. Graph 4 also charts the percentage of people who ranked the attitude function either very or extremely motivating, but by gender.

Graph 2: The extent to which functional attitudes motivate recycling behavior**Table 5: The extent to which functional attitudes motivate recycling behavior**

	Utilitarian: Individual Rewards	Utilitarian: Collective Rewards	Utilitarian: Individual Punishment	Utilitarian: Collective Punishment	Ego Defensive: Explicit	Ego Defensive: Implicit	Value Expressive	Knowledge: What & How	Knowledge: Why & Benefits	Social Adjustive	Social Identity
5 - Extremely motivating	9	4	7	2	4	5	3	7	2	1	0
4 - Very motivating	3	6	2	7	2	5	5	4	2	4	0
3 - Moderately motivating	3	5	3	4	6	5	4	2	8	5	4
2 - Slightly motivating	0	1	1	0	2	1	1	1	3	2	4
1 - Not motivating at all	1	0	3	3	2	0	3	2	1	4	8

Graph 3: The percentage of each age group that believes the attitude function is either very or extremely motivating

Graph 4: The percentage of each gender that believes the attitude function is either very or extremely motivating



The results of the functional message testing suggest that the utilitarian attitude function captures some of the highest levels of motivation overall. Utilitarian that showcased a reward for the individual was the most motivating of all attitude functions and across all four utilitarian messages, with 12 out of 16 interviewees (75%) describing it as very or extremely motivating. This positive response was similar across all age groups including 7 out of 9 18-39 year olds (77%), 2 out of 3 40-62 year olds (66%) and 3 out of 4 63 year olds and older (75%), but appealed more to males as very or extremely motivating (5 out of 6 or 83%) than it did to women (6 out of 10 or 60%). The message tested was, “each time that you put recycling out for collection, the city will reward you with \$10.” This was well received because, as one interviewee explained, “it’s a direct reflection of your actions.” Others suggested other incentives, like receiving free bio-bags or a discount on their water bill in return for their recycling contributions.

The second most motivating message of the 11 tested was the knowledge attitude

function that focused on what and how to recycle. The message used was, “here is a list of what can go in your recycling bin and what cannot.” This resulted in 12 out of 16 interviewees (75%) reporting that it was extremely or very motivating. Seven out of 9 18-39 year olds (77%) and 3 of 4 (75%) of 63 year olds and up rated this as very or extremely motivating while just 1 out of 3 40-62 year olds (33%) did. Slightly more women (7 out of 10 or 70%) ranked this as very or extremely motivating, compared to 3 out of 6 men (50%). One interviewee explained that this was “just because the more information you provide the more likely people are to do it.”

The third and fourth most motivating messages of the 11 were tied between 2 attitude functions: Utilitarian with collective rewards and ego defensive with implicit messaging. Utilitarian with collective rewards was also second for all 4 utilitarian messages, and was tested using the message, “your recycling efforts help to reduce trash sent to landfills and save natural resources.” This was recognized as the approach most interviewees were familiar with, “this was everything they ever pushed on us in elementary school.” Ten out of 16 people (62%) rated this as extremely or very motivating, including 7 out of 10 women (70%) and 3 out of 6 men (50%). Interestingly, 4 out of 4 adults 63 years old and higher (100%) rated this as very or extremely motivating, whereas 4 out of 9 18-39 year olds (44%) and 66% (2 out of 3) 40-62 year olds did. Ego defensive that was implicit within the message was also third overall with 10 out of 16 people (62%) rating it as extremely or very motivating with little variance across age groups or gender; 5 out of 10 women (50%) and 4 out of 6 men (66%) as well as 6 out of 9 18-39 year olds (66%), 2 out of 3 40-62 year olds (66%) and 2 out of 4 63 year olds and up (50%). The message tested was, “the average person generates seven pounds of waste each day, half of which could be recycled.” This featured an underlying element of guilt that interviewees noticed; “you should do the right thing – something that can be easily fixed.”

The fifth and sixth most motivating message overall was shared between two aspects of the utilitarian function: individual and collective punishment, which each had 9 out of 16 people (56%) believing they were extremely or very motivating; however, individual punishment had 7 people (43%) identifying it as extremely motivating including 6 out of 9 18-39 year olds (66%), 2 out of 3 40-62 year olds (66%), 1 out of 4 people 63 and older (25%), while collective had just 2 out of 16 (12%) including 5 out of 9 18-39 year olds (55%), 2/3 40-62 year olds (66%) and 2 out of 4 63 year olds and older (50%). Individual punishment was extremely or very motivating to 6 out of 10 women (60%) and 2 out of 6 men (33%) whereas collective punishment received those same levels of motivation for 5 out of 10 women (50%) and 3 out of 6 men (50%).

Individual punishment was tested with, “if you do not separate your recyclables from your trash, the city will fine you. One respondent commented that an individual approach “... affects me personally, like there’s a direct consequence to me.” Collective punishment was tested using, “each year, it costs the city 1 million dollars to remove recyclables from citizens’ trash for recycling.” Nearly every person interviewed responded with a reaction similar to this one, “it illustrates how wasteful that practice is of our city money. We could use it for something more meaningful than something that we could just do on our own, for free.”

The seventh most motivating message of the 11 was value expressive, which was tested with “your recycling efforts reflect your values as an environmentally-conscious person.” While respondents rated this across all 5 levels of motivation, 8 out of 16 (50%) said that it was very or extremely motivating including 4 out of 9 18-39 year olds (44%), 1 out of 3 40-62 year olds (33%), 3 out of 4 63 year olds and older (75%) with slightly more women favoring the attitude function (4 out of 10 or 40%) than men (2 out of 6 or 33%). So while some people replied that

having recycling organizations tap into value systems felt ‘judgy’ or a way to ‘guilt’ them into doing something, more respondents expressed that it “makes you feel good about yourself.”

The eighth most motivating message was the explicit use of ego defensive in the form of guilt. The message tested was, “it is your responsibility to recycle.” Six interviewees (33%) found this very or extremely motivating including 2 out of 9 18-39 year olds (22%), 0 out of 3 40-62 year olds (0%) and 4 out of 4 63 year olds and higher (100%) as well as 4 out of 10 women (40%) and 2 out of 6 men (33%); “everybody should be preached to on this from the day we’re born.” It is important to note that 8 others (50%) ranked this as moderately motivating or less, citing that “it’s kind of like someone telling me, ‘eat your oatmeal.’”

The social adjustive message ranked ninth and was testing using the message, “the city has a goal of reducing waste and increasing the recycling rate to 90% by 2030.” Five out of 16 people (31%) said it was very or extremely motivating because it invited people to join a collective cause that they found important and achievable; however, a number of people also cited that it wasn’t motivating because it either lacked a personal benefit to them or because they were skeptical that it would work. This was viewed as very or extremely motivating by 4 out of 10 women (40%) and just 1 out of 6 men (16%), and by 2 out of 9 18-39 year olds (22%), 1 out of 3 40-62 year olds (33%) and 2/4 63 year olds and up (50%).

The tenth ranked message of 11 was knowledge of why to recycle or the benefits of recycling. This attitude function was tested with “recycling one ton of office paper can save the energy equivalent of consuming 322 gallons of gasoline.” Four of 16 interviewees (25%) viewed this as very or extremely motivating including 2 out of 9 18-39 year olds (), 0 out of 3 40-62 year olds (0%), 2 out of 4 63 year olds and older. Two out of 10 women (20%) also viewed this as very or extremely motivating compared to 2 out of 6 men (33%). Interestingly, 8

out of 16 people (50%) said that it was moderately motivating, which was the highest moderately ranked message total. This was summed up by one interviewee who explained, “I could take it or leave it.”

The lowest ranking message was one that incorporated the social identity attitude function in the form of, “you can become a recycling leader in your neighborhood and educate your neighbors on how to recycle.” No interviewee ranked this as extremely or very motivating, whereas 8 out of 16 (50%) declared it as not motivating at all. Reactions to this were largely based on discomfort with the thought of telling other people how to behave, or not having the time to do it, “Nah, no, no! I have enough going on in my schedule. If I had time for that, I’d get a lot of other things done first.”

At the conclusion of this section, interviewees were asked whether they believed the messages they identified as the most motivating to them would impact their participation in recycling going forward, to which 14 of the 16 (87%) replied that it would because “that would give you a little bit more motivation to make sure you’re doing it all the time.” This included the one interviewee who does not recycle currently. For the two who replied that it would not make a difference, the reasoning was that they “already recycle everything.”

You Vs. We Pronouns

The final section of the interview asked participants to select the most appealing messaging of two that featured either the individual pronoun “you” or the collective option “we.” The results were evenly split with 8 out of 16 people (50%) opting for each. Those who preferred “we” cited it as “unifying,” “more hopeful,” and that “it’s a team effort.” Those who preferred “you” explained that “we” gives people “the opportunity to exclude themselves” and that “it’s easier to push it off on someone else.” Using the pronoun “you” makes it more

personal and motivating to do something, “I think it just puts a little stronger sense on the personal responsibility of it.”

Discussion

The purpose of this research is to explore the possibility of closing the gap between recycling attitudes and actual behaviors through the application and specifically ‘matching’ of attitude functions from the Functional Theory of Attitudes to the individual. Focus on the individual within “prosocial advocacies in particular” was identified through the literature as a critical component to successful persuasion, making the exploration of individual motivations within the context of recycling an interesting pursuit. The hypothesis is that if we identify the preferred functional attitude(s) that individuals have towards recycling (those values that they determined most motivating to them), we could then match messaging to those preferences and ultimately strengthen or change their recycling behaviors.

To determine whether or not this is true, four research questions were posed. The first two are best discussed together because they both address the attitude functions from the theory.

RQ1: Which attitude functions resonate most to people within the context of recycling?

RQ2: Which attitude functions are most represented on current websites and marketing materials?

One of the first things asked during the interviews was, “what could cities do to make you increase your recycling efforts?” This gives us insights into the things that people feel are missing from or frustrating about recycling. Seven themes arose that all condensed into just two attitude functions: the utilitarian function with individual rewards like making recycling free and easier, and the knowledge function of what, how and why to recycle. To test this further, 11

messages representing 11 different manifestations of the functional theory of attitudes were tested asking individuals to rate each one's motivational value to them as individuals.

Utilitarian

The utilitarian attitude function serves individuals who seek to obtain external rewards while avoiding punishments (Katz, 1960; Perloff, 2014; Clary & Snyder, 1999). The utilitarian reward for the individual was identified by interviewees as the most motivating message especially within the 18-39 year age group, with the other 3 utilitarian messages featuring collective and punishment messaging ranking in the top5. This lines up with what individuals had said they wanted from their recycling organizations at the start of the interview. Interestingly, the utilitarian attitude function also had a high presence in the existing recycling materials with the third highest presence of 6 within the sampling, which tells us that what individuals want is being provided.

The research also suggests that reward aspects of this attitude function are preferred over punishments. Additionally, individual rewards are preferred over collective ones especially with men, 83% of whom (5 out of 6) ranked this as very or extremely motivating; however individual benefits were found in only 3 out of 30 utilitarian recycling messages sampled (10%). While this may represent an opportunity to incorporate this attitude function into materials more often, communicators should note that with this sampling of people, nearly all of whom already recycle, 10 out of the 12 who commented on this attitude expressed that having individual rewards wouldn't be likely to change their actual behaviors very much: "Pay me to do something I already do? Why not?"

Collective rewards were recognized as a familiar message for most interviewees, and rightly so because 15 out of 30 utilitarian messages sampled included this aspect of the attitude

function. They ranked it high in motivation, although commentary surrounding this evaluation sounded unenthusiastic because of its familiarity, “I think it’s a common thing you see everywhere, you’re kind of desensitized to it. It’s a hot phrase that loses its meaning. People hear it, but they don’t listen to it.”

Utilitarian punishments didn’t rank as high as rewards, but they still carried significant motivational value. Individual punishments outperformed collective ones, and the one person who did not recycle identified this as their most motivating attitude function messaging. Across recycling materials, individual punishment was represented in 5 out of the 30 utilitarian messages sampled (16%) and collective was represented in 7 (23%). While this difference is slight, it suggests that individual aspects of this attitude function could be mentioned more often to better match interviewees’ preferences. Another thing to note is that during the interview, both the individual and collective messages that were tested related to recycling expenses; individual fines in one and city costs for the other. Interestingly, the collective city costs were interpreted as being paid for with individuals’ tax money, so in both instances interviewees felt motivated to recycle to avoid a personal financial burden. The quantitative nature of these messages was also noted by interviewees as being helpful to them, and motivating as well.

In summary, the research suggests that most individuals feel very or extremely motivated by the utilitarian attitude function. Communicators should choose rewards over punishments and, in-line with what the literature suggests, increase messaging that addresses the individual implications, in both.

Ego Defensive

The ego defensive attitude function serves individuals who work to defend against unpleasant emotions, like guilt (Katz, 1960; Perloff, 2014; Clary & Snyder, 1999). Its implicit

use in messaging was tied with the collective rewards aspect of the utilitarian function mentioned above as the third or fourth most motivating message of 11. Alternatively, its explicit use was ranked eighth and appealed mostly to the 63 year olds and older. This is interesting because throughout the interviews people often said that they felt recycling was their responsibility or the right thing to do, which is explicit. When asked directly why they recycle, “it’s the right thing to do” and “guilt” were cited as 2 of the top 5 reasons. This suggests that while people agree with these types statements, they don’t necessarily like hearing them from recycling organizations. Luckily, the explicit use of this attitude function was found in just 1 out of the 27 pieces sampled (3%), while its implicit use was identified in 11 (40%). This appears to be on track with what motivates people the most and suggests that communicators should continue to downplay its explicit use in messaging and maintain subtle cues that stir feelings of guilt or obligation, as this was found to be effective.

Value Expression

The value expression attitude function serves individuals who want to express their core values and beliefs because it is a part of their personal norm, self-expectation or perception (Katz, 1960; Perloff, 2014; Clary & Snyder, 1999). This was found to be the seventh most motivating message of 11 for respondents with 8 out of 16 (50%) rating it as very or extremely motivating; however, similar to the explicit use of ego defensive, value expression actually made people feel guilty. The message was intended to stir feelings of pride for recycling, but 10 out of 16 people had a negative reaction even if they deemed it extremely motivating. Across the sampling of recycling materials, this was the least present with just 3 mentions (11%). This suggests that there is an opportunity to acknowledge peoples’ participation and valuation of recycling to motivate additional participation, but communicators should be cautious with their

choice of words to avoid coming off as judgmental or patronizing. Its implicit use, meaning speaking to the reader through the assumption they want to recycle could be a good approach.

Knowledge

The knowledge attitude function serves individuals who seek to make sense of the world so that they know how to navigate through it (Katz, 1960; Perloff, 2014; Clary & Snyder, 1999). When messaging reflected what and how to recycle, interviewees responded positively, making it the second most motivating message of 11. This matches what they suggested the city improve as well; knowledge was one of two attitude functions recommended with specific requests for more information on rules and guidelines. As one respondent explained, it's "because you see it right in front of you, so you know what you can put in there. It's a mind connection, you can visualize it." Its presence in marketing materials also lines up with knowledge being the most present attitude function of all 6, and what and how being the most emphasized.

Alternatively, knowledge of why to recycle was ranked second lowest among the 11 messages tested in the interviews. This does not line up with what people recommended the city do to improve their recycling behaviors, which cited why recycling was important as missing information. Similar to the what and how, why to recycle was present in 21 of the 27 marketing materials (77%); however it was only emphasized in 5 (18%). What this tells us is that people want this information, but they aren't necessarily recognizing it when they see it.

To optimize the knowledge attitude function with why messaging, communicators may try incorporating a personal connection or benefit to individuals. Seven out of 16 respondents (43%) cited recycling programs' failure to explain how recycling affected them personally. The literature supports the suggestion that addressing personal aspects may catch consumers'

attention and help them recognize the presence of this attitude function, because “the self (is) known to be one of the richest, most developed networks in memory” (Loroz, 2007, p. 1005). Additionally, incorporate quantifiable information that the average citizen can understand. The message tested in the interview referenced industrial quantities which respondents struggled to translate; “it’s just, the scale of it is just really hard to grasp.” To optimize the how and what messaging, communicators should investigate different methods to distribute the information. The messages are out there, but they don’t seem to be getting into the hands of consumers as well as they could.

Social Adjustive

The social adjustive attitude function serves individuals who seek acceptance or camaraderie from others, or align to normative pressures (Katz, 1960; Perloff, 2014; Clary & Snyder, 1999). This was the ninth most motivating message of 11 during the interviews, with just 5 out of 16 people (31%) saying it was extremely or very motivating. Men were especially unimpressed with this attitude function with just 1 out of 6 (16%) indicating that this was extremely or very motivating to them. Current marketing materials on the other hand included this type of messaging in 19 out of the 27 pieces (70%). This suggests a disconnect between what communicators are providing and how consumers are reacting; however, there may be some alignment with its implicit use. Social adjustive was used implicitly by 8 out of 11 cities studied (72%) when they named their recycling programs as a city effort, for example, “Denver Recycles” and “Minneapolis Recycles.” This is a subtle way of telling the reader that others recycle in their community and they should, too. At the same time 8 out of 16 people (50%) said that recycling should be a group effort and that they would prefer collective messaging rather than putting the responsibility of recycling onto the individual. This suggests that, similar

to the implicit use of ego defensive and value expression, the implicit use of social adjustive holds motivational value as well.

Social Identity

The social identity attitude function serves individuals who aspire to communicate or draw attention to something special about themselves to others (Katz, 1960; Perloff, 2014; Clary & Snyder, 1999). During the interviews, this was the lowest ranking attitude function of all and was generally met with laughter and a reluctance to lead, even from people who were quite passionate about recycling. This is because the message tested asked interviewees whether or not they would volunteer to be a recycling advocate in their neighborhoods. This level of attention made them feel as though they were pushing something onto others, “I just can’t envision myself going out into my community and educating people on recycling...I imagine that being a little obnoxious of me!” Another person commented, “I don’t want to be known as the trash lady!” This attitude function was also the least common across the sampling of materials with 18 out of 27 (66%) never mentioning it at all, which aligns with readers’ reactions. More subtle examples of this attitude function like taking online pledges weren’t tested with interviewees, but overall, interviewees were hesitant to be put in the spotlight so it wouldn’t be recommended to invest further in this attitude function.

The next research question was asked to better understand the importance of individual benefits within prosocial activities like recycling.

RQ3: Are individuals more motivated by individual or collective benefits?

When interviewees were asked who benefits from recycling, 15 out of 16 (93%) replied with collective answers like the earth, human kind, and future generations. The one person who didn’t agree with this cited that private organizations that used recyclables in their products

benefited. No responses reflected the individual, which makes sense because only 4 out of 27 marketing materials (14%) mentioned personal benefits; it doesn't appear to be a message that communicators share broadly. However, when interviewees were asked whether they would be interested in learning how they could personally benefit, 14 out of 16 (87%) replied that they would. At the same time, when asked what cities could do to motivate them to recycle more, providing personal benefits was one of the common themes across answers, and when utilitarian messages were tested, the two individual messages garnered higher motivational value than the collective ones. This suggests that people who recycle currently have been motivated by the collective benefits that they have heard about in the past, but that they're interested in hearing about personal benefits and believe that it could motivate them to do more. The one person who did not recycle understood that recycling provided collective benefits, but said that they would recycle if personal implications were involved.

In summary, collective benefits appear to be effective in motivating current recyclers, just as Steg & Vlek (2009) suggested, but additional, personal incentives would motivate them to do more and potentially activate non-recyclers as well. This balance of altruistic and egoistic messaging is what the literature review had suggested. Based on these findings, it would be recommended that communicators add more individual relevancy and rewards to marketing materials. Interviewees said that they are interested in hearing about it, feel it could impact their recycling behaviors, but expressed that they have rarely heard of it.

The next research question addresses the gap that has been observed between how people think or feel about something (attitudes) and their behaviors. Does a gap exist within the context of recycling, and if so, how can we help to close that?

RQ4: To what extent do peoples' attitudes about recycling align with their behaviors towards recycling?

This research shows that individuals who report a behavior of recycling also have highly positive attitudes towards recycling, suggesting that their attitudes do align with their behaviors; however the extent of that alignment can be argued. This is because no measurable difference in attitude was found between people who reported recycling often and those who indicated that their recycling could be improved. On the extreme end, the one individual who reported no recycling behavior at all, while generally neutral on attitude, actually rated it as a wise activity in their evaluation, just as recyclers did. This demonstrates that positive attitudes towards recycling do not always translate into behavior, which is consistent with the existing literature, that attitudes while good indicators of behavior, are not always a guarantee (Baca-Motes et al., 2013).

To help close this gap for less frequent or non-recyclers, the research conducted in this study suggests that matching attitude functions to individuals' needs can have an impact on recycling behaviors. This is in-line with the literature's suggestions of matching benefits to individuals' motivations (Clary & Snyder, 1999; Villarino & Font, 2015). After all 11 messages were tested during the interview, respondents were asked to reflect back on their most motivating selections: if they received one of those messages from their local municipality tomorrow, did they believe it would impact their participation in recycling going forward? Fourteen out of 16 (87%) replied that it would, which supports this study's hypothesis:

H: Recycling messages that match the functional motivation(s) of the message receiver will positively affect attitudes towards recycling and improve intention to adopt recycling behaviors.

Moving beyond the hypothetical, communicators can take specific steps to help fulfill message receivers' needs and activate more positive attitudes and behaviors towards recycling. A list of recommendations is described in the Recycling Communication Recommendations section.

Limitations and Future Research

While both qualitative and quantitative research methods were employed to gather valuable information on this topic, there are some limitations to this research project.

The content analysis considered a sampling of marketing materials from 11 cities across the 4 primary census regions of the U.S. in an effort to cover a wide geography and variety of materials; however, this a limited sample given the number and diversity of large U.S. cities available to study. In addition, the cities are all politically blue, meaning they lean democratic, and have a well-educated workforce which may indicate a general favorability towards green persuasion and not be indicative of attitudes and recycling behaviors in red, more republican areas. When looking for other cities to diversify the sampling, recycling information was difficult to find or didn't exist at all. When looking for information at a federal level, the EPA information was easy to find, but was outdated. The most recent figures on recycling rates for example were from 2014.

Future research should consider a larger sampling of materials from U.S. cities with equal representation from both blue and red areas so that findings could be applied more broadly. Additionally, it would be interesting to understand whether the materials are developed in-house, meaning by the entry-level program specialists who responded to inquiries for information on the website or perhaps their supervisors, or if materials are developed by outside communications agencies with experience in green marketing.

The interviews allowed for both questionnaire and in-depth questioning, which provided quantitative and qualitative information. It is important to note though that in both instances, the answers were self-reported. Recognizing the statistic at the beginning of the study that stated 75% of people report recycling behaviors while 34% actually do recycle, there is potential for misreporting. This suggests that the findings that 15 out of the 16 people (94%) interviewed recycle may be inflated. In future research it would be interesting to ask interviewees to rate their level of recycling on a Likert scale to determine if they recycle a little bit or always. In addition, participants were chosen by the researcher through personal, professional and educational contacts. It is possible that they felt compelled to report in a way that they felt met social or researcher expectations, which could have contributed to response bias. Future research should include a random sampling of interviewees to encourage truthful reporting.

The sample size for interviews was 16 people, the residences of whom skewed towards the West and Midwest, with limited representation from the South and Northeast. In addition, all interviewees live in blue cities that lean democratic and may favor environmentalism. Future research should include interviews with an equal number of individuals in each region and include red more republican-leaning cities. It would also be interesting to conduct a similar research project by city, rather than country. Doing so could reveal regional differences, and the application of results could more easily be measured through actual, rather than self-reported, behaviors like city recycling rates.

There were no interviewees below the age of 29 included in this study, which excludes the youngest adult generation from consideration. Future studies should gather insights from this age range to understand the impact that these individuals have on attitude function preferences.

Additionally, 15 out of the 16 people interviewed reported that they recycle currently, which hindered this study's ability to apply research findings to the 66% of Americans who do not recycle (US EPA, 2017). Future research should incorporate perspectives from more non-recyclers. In fact, a study similar to this one, but exclusive to non-recyclers, would be important to see if their attitude function selections are similar to or different from those found in this study.

The messages that were tested in the interviews represented all attitude functions, but were limited to the interpretations of the researcher. Had different messages been selected, it is possible that the preferred attitude functions may have been different. Future research could incorporate alternative messaging to understand whether other messaging selections affect interviewee responses. For example, instead of asking participants if they would be willing to serve as a recycling advocate for their neighborhood, the question could ask if they would post a picture on Facebook showcasing their commitment to recycling. Both represent the social identity attitude function, but in different ways.

Finally, the interviews revealed that while there are marketing materials available to help people recycle already, many participants had not seen them. Knowledge for example was a common attitude function requested by interviewees that was also the most commonly available form of marketing material. This suggests that future research should ask where and how people are receiving their recycling information, as this could be a contributing factor to recycling attitudes and behaviors.

Recycling Communication Recommendations

While the content analysis revealed that a variety of materials are available to help consumers in their efforts to recycle, the interviews demonstrated a desire from consumers for

more information. To help close the gap between what municipalities are providing to their audience and what the audience is looking for, here is a list of some best practices that communicators should consider when attempting to match consumer needs through messaging and activate positive recycling attitudes and behaviors:

- **Prioritize utilitarian and knowledge attitude functions.** This is information that audiences are looking for and that can better enable them to recycle. When speaking to utilitarian needs, remember that rewards trump punishments, and individual messages outweigh collective ones. The desire for knowledge includes how and what to recycle, but don't forget to include why. People want to understand the impact that recycling has beyond the familiar messaging that it's good for the earth. Include personal benefits to them as individuals to help them recognize their contribution to a larger movement.
- **Don't underestimate the power of implicit messaging.** The ego defensive, value expressive and social adjustive attitude functions each appeal the most when applied subtly.
 - Ego defensive was one of the most preferred attitude functions among interviewees, but only when it was informational and not explicitly accusatory. A best practice would be to explain the opportunity and potential negative consequences of not recycling that can stir feelings of guilt and obligation to recycle.
 - Value expressive is best applied as a general direction for messaging styles across all attitude functions. Don't try to tell people what they value or don't value; they'll interpret that as patronizing and resist the message. Instead, simply write messaging in a way that assumes that they value the same things you value

(i.e. recycling). Speak of recycling like your audience already agrees that it's a good thing.

- While interviewees didn't warm to explicit city-wide recycling goals, nearly half voiced that they preferred approaching recycling with a teamwork mentality rather than an individual one. This suggests that social adjustive is a good way to brand a recycling campaign, like Denver Recycles, as a group effort throughout materials.
- **Employ social adjustive and social identity sparingly or as supplemental messaging.** Within the context of recycling, these simply don't pull enough weight as standalone attitude functions. These are good tools to spread awareness, but the majority of people expressed a dislike for being in the spotlight (social identity) or distrust of city-wide goals (social adjustive), believing them to be out of reach or disingenuous.
- **Include quantifiable information.** Data is a powerful tool, and it helps consumers to understand the impact that recycling has on the environment as well as in their personal lives. This should be incorporated often, particularly in utilitarian (to quantify rewards and benefits), ego defensive (to quantify tradeoffs), knowledge (to quantify impact) and social adjustive (to quantify group involvement or impact) scenarios.
- **Make information personally relevant.** Related to the point above, when quantifying information, make sure that information is communicated in terms the consumer can understand. For example, when describing impact, instead of telling someone that "recycling 1 ton of office paper can save the energy equivalent of consuming 322 gallons of gasoline," explain that "the average person generates 7 pounds of waste each day, half of which could be recycled." Most people don't know what 1 ton of office

paper or 322 gallons of gas looks like. They can image what 7 pounds of waste does.

- **Include both collective and individual benefits.** Most people believe that recycling benefits people on a global, collective scale; however, they're interested in understanding how it impacts their personal lives as well and feel that having that information would improve their recycling behaviors. Similar to the point above, when writing messaging for consumers, ask yourself, "how does this impact me, personally?" Answer that question in your messaging because they're wondering the same thing, and if it feels like they aren't personally impacted by what you're writing, then they won't engage in recycling any differently than they are today.
- **Include both "you" and "we" pronouns.** Currently, recycling marketing materials often employ the pronoun "you" throughout messaging. Eight out of 16 people preferred this because it gave them specific responsibility to recycle. The other 8 felt that this was pushing too much responsibility onto their shoulders, and preferred speaking of recycling as a group effort. Try to incorporate both by speaking of recycling as a group effort, but providing specific opportunities or actions for individuals to engage with.
- **Don't miss an opportunity to connect.** This last practice is an easy one to implement. Across both digital and print materials, include calls to action that invite consumers to find you on social media, subscribe to a newsletter, call or email you with questions or learn more on a website. The interviews demonstrated that people have questions about recycling that often prevent them from recycling more. Offer to answer them.

References

- Baca-Motes, K., Brown, A., Gneezy, A., Keenan, E. A., & Nelson, L. D. (2013). Commitment and behavior change: Evidence from the field. *Journal of Consumer Research*, 39(5), 1070–1084. <https://doi.org/10.1086/667226>
- Clary, E. G., & Snyder, M. (1999). The motivations to volunteer. *Current Directions in Psychological Science*, 8(5), 156–159. <https://doi.org/10.1111/1467-8721.00037>
- Clary, E. G., Snyder, M., Ridge, R. D., Copeland, J., Stukas, A. A., Haugen, J., & Miene, P. (1998). Understanding and assessing the motivations of volunteers: A functional approach. *Journal of Personality and Social Psychology*, 74(6), 1516–1530. <https://doi.org/10.1037/0022-3514.74.6.1516>
- Hardeman, G., Font, X., & Nawijn, J. (2017). The power of persuasive communication to influence sustainable holiday choices: Appealing to self-benefits and norms. *Tourism Management*, 59, 484–493. <https://doi.org/10.1016/j.tourman.2016.09.011>
- Katz, D. (1960). The functional approach to the study of attitudes. *The Public Opinion Quarterly*, 24(2), 163-204. Retrieved from <http://www.jstor.org.ezp2.lib.umn.edu/stable/2746402>
- Kazdin, A. E. (2009). Psychological science's contributions to a sustainable environment: Extending our reach to a grand challenge of society. *American Psychologist*, 64(5), 339–356. <https://doi.org/10.1037/a0015685>
- Killinger, Jennifer (2014). New survey: Half of Americans say they recycle 75 percent or more of recyclable items. *American Chemistry Council*. Retrieved from <https://www.americanchemistry.com/Media/PressReleasesTranscripts/ACC-news>

releases/New-Survey-Half-of-Americans-Say-They-Recycle-75-Percent-or-More-of-Recyclable-Items.html

Loroz, P. S. (2007). The interaction of message frames and reference points in prosocial persuasive appeals. *Psychology and Marketing*, 24(11), 1001–1023.
<https://doi.org/10.1002/mar.20193>

Minton, E., Lee, C., Orth, U., Kim, C.-H., & Kahle, L. (2012). Sustainable marketing and social media: A cross country analysis of motives for sustainable behaviors. *Journal of Advertising*, 41(4), 69–84. <https://doi.org/10.1080/00913367.2012.10672458>

Park, J., & Ha, S. (2012). Understanding pro-environmental behavior. *International Journal of Retail & Distribution Management*, 40(5), 388–403.
<https://doi.org/10.1108/09590551211222367>

Perloff, Richard M (2014). *The Dynamics of Persuasion: Communications and Attitudes in the 21st Century* (5th ed.). New York, NY: Routledge Taylor & Francis Group.

Salhofer, S., & Isaac, N. A. (2002). Importance of public relations in recycling strategies: Principles and case studies. *Environmental Management*, 30(1), 68–76.
<https://doi.org/10.1007/s00267-002-2615-9>

Shrum L. J., Lowrey, T. M., & McCarty, J. A. (1995). Applying social and traditional marketing principles to the reduction of household waste: Turning research into action. *American Behavioral Scientist*, 38(4), 646–657.
<https://doi.org/10.1177/0002764295038004013>

Steg, L., & Vlek, C. (2009). Encouraging pro-environmental behaviour: An integrative review and research agenda. *Journal of Environmental Psychology*, 29(3), 309–317.

<https://doi.org/10.1016/j.jenvp.2008.10.004>

The truth about recycling. (2007, June 7). *The Economist*. Retrieved from

<http://www.economist.com/node/9249262>

Tierney, J. (2015, October 3). The reign of recycling. *The New York Times*. Retrieved from

https://www.nytimes.com/2015/10/04/opinion/sunday/the-reign-of-recycling.html?_r=0

U.S. Environmental Protection Agency (2017). Municipal solid waste. Retrieved from

<https://archive.epa.gov/epawaste/nonhaz/municipal/web/html/>

Venhoeven, L. A., Bolderdijk, J. W., & Steg, L. (2016). Why acting environmentally-friendly feels good: Exploring the role of self-image. *Frontiers in Psychology*, 7, 1846.

<https://doi.org/10.3389/fpsyg.2016.01846>

Villarino, J., & Font, X. (2015). Sustainability marketing myopia. *Journal of Vacation*

Marketing, 21(4), 326–335. <https://doi.org/10.1177/1356766715589428>

Waxman, O. B. (2016, November 15). The history of recycling in America is more complicated

than you may think. *Time*. Retrieved from <http://time.com/4568234/history-origins-recycling/>

Whitmarsh, L., & O'Neill, S. (2010). Green identity, green living? The role of pro-

environmental self-identity in determining consistency across diverse pro- environmental behaviours. *Journal of Environmental Psychology*, 30(3), 305–314.

<https://doi.org/10.1016/j.jenvp.2010.01.003>

Appendices

Appendix 1 - Content Analysis Coding Sheet

Which municipality is associated with this material? _____

What organization/group created this material? _____

What type of communication is it?

- | | | | |
|---|-----|----|---------------|
| • Website | Yes | No | # Pages:_____ |
| • Direct mail like postcards, flyers or brochures | Yes | No | # Pages:_____ |
| • Newsletter or email | Yes | No | # Pages:_____ |
| • Posters | Yes | No | # Pages:_____ |
| • Advertisement | Yes | No | # Pages:_____ |
| • Recycling bin tags | Yes | No | # Pages:_____ |

Which of the following does the material include?

- | | | |
|---------------------------------------|-------|-----------|
| • Social media link(s) | Yes | No |
| • Email/newsletter subscription | Yes | No |
| • Contact us form/Contact information | Yes | No |
| • Web links to additional information | Yes | No |
| • Video (if a website) | Yes | No |
| ○ How many? | 1 | 2 3+ |
| ○ What are they about? | _____ | |
| | _____ | |
| | _____ | |

What are the headlines/titles? _____

Is there a specific marketing campaign for recycling? Yes No

If yes, what is it called? _____

What is it trying to achieve? _____

Who is the target audience? Children Adults Both

Purpose:

- | | | | |
|-------------------|------------|-----------|------------|
| • How to recycle | Emphasized | Mentioned | Not At All |
| • What to recycle | Emphasized | Mentioned | Not At All |

Is the message directed towards individual (you) or collective (we)?

Individual 1 2 3 4 5 Collective

Is the focus on individual or collective benefits?

Individual 1 2 3 4 5 Collective

How? _____

Appendix 2 – Attitude Functions Served By Recycling

Table 1. Attitude functions served by recycling			
Attitude Function	Conceptual Definition	Operational Definition	Examples
Utilitarian	An individual seeks to obtain external rewards while avoiding punishments.	Reference to rewards for recycling (like a cleaner environment) or punishment if you do not do it (run out of natural resources or “it’s the law”)	An individual recycle as a means to reduce environmental impacts in order to protect one’s health or avoid a fine.
Ego Defensive	An individual works to defend against unpleasant emotions.	Reference/Implication to “do your part” or “it’s your responsibility to recycle.”	An individual recycles to reduce feelings of guilt for uncomfortable truths, like not acting “green.”
Value Expression	An individual wants to express their core values and beliefs. It is part of their personal norm, normative belief and/or self-expectation and perception.	Reference/Implication to your values as an environmentally conscious person.	An individual recycles because they believe they have a responsibility to do so; this is who they are.
Knowledge	An individual seeks to make sense of the world so that they know how to navigate through it.	Reference to “how,” “what” or “why” to recycle, or educational information like “did you know?”	An individual recycles because they know how and what to recycle. There is order and this makes sense.
Social Adjustive	An individual seeks acceptance from others/camaraderie/normative pressures.	Reference/Implication that surrounding groups of people recycle; “we” collectively as a municipality recycle.	An individual recycles as a means to fit in with neighbors, peers or other community members.
Social Identity	An individual aspires to communicate or draw attention to something special about themselves to others; who they are or who they aspire to be. It is a way to manage their image.	Reference to sharing the message with others or being a spokesperson or advocate for the recycling cause.	An individual recycles in order to tell others that they’re “green” or environmentally responsible.

Appendix 3 - Content Analysis Results Summary

Question 1: Which municipality is associated with the materials?	
City/Municipality	Number of individual materials
Austin, TX	4
Boston, MA	1
EPA	1
Denver, CO	3

Minneapolis, MN	5
Philadelphia, PA	1
Portland, OR	2
Raleigh, NC	1
Saint Louis, MO	3
Saint Paul, MN	4
San Francisco, CA	1
Seattle, WA	1

Question 2: Which organization(s)/group(s) organized these materials?
Austin Resource Recovery
City and County of Denver Public Works & Solid Waste Management
City of Boston Public Works
City of Minneapolis Solid Waste & Recycling
City of Philadelphia Streets Department
City of Portland Bureau of Planning & Sustainability
City of Raleigh Solid Waste Services
City of St. Paul Public Works
Environmental Health Division of Saint Paul - Ramsey County Public Health.
Ramsey County
Ramsey/Washington Recycling & Energy Board
Seattle Public Utilities
SFenvironment.org a department of the city and county of San Francisco
St. Louis - Jefferson Solid Waste Management District, Missouri Department of Natural Resources, Brightside St. Louis
United State Environmental Protection Agency

Question 3: Which types of communications are they, and how many pages are they?		
Type of communication	Number of individual materials	Number of pages in each material
Direct Mail	9	1, 1, 2, 4, 4, 4, 10, 16, 22
e-Newsletter/Newsletter	4	1, 1, 1, 11
Poster	2	1,1
Website	12	1, 10, 10, 10, 10, 15, 20, 20, 20, 40, 40, 40

Question 4: How many of the materials included the following?						
Y/N	Social Media Links	Email/ Newsletter Subscription	Contact Us Form or Information	Web Links to Additional Information	Video	How many videos?
Yes	19	10	23	25	6	1, 1, 2, 3, 5, 10
No	8	17	4	2	21	N/A

Question 5: What were the videos about?
Waste generated at Austin music festivals
How and what to recycle in Philadelphia
Composting
What goes in my recycling cart?
What goes in my food and yard waste cart?
What happens to my food & yard waste and recycling?
Beyond the curb – What happens behind the scenes
Where your garbage goes and preventing waste
How to recycle, zero waste goal, & composting
One Sort Recycling
Mr. Cool Can - Explaining why we recycling and some benefits

Question 6: What are some of the headlines/titles in the material?		
Cleaning Austin	Composts Is Now Available in All Neighborhoods	Know the Recycling Ins and Outs
Free Composting Classes	Be a Good Neighbor!	Recycle Often, Recycle Right
Dig it! - Return of the soil testing	Don't Trash It. Donate It!	How Recycling is doing our City tons of good
Spring Cleaning	Keep Denver Beautiful!	Portland Recycles!
Residential Recycling Collection	Your Guide to Easy Recycling	Find Your Garbage and Recycling Company
Recycle Right	What can be recycled	Portland Composts!
My Collection Schedule	Mexican Restaurant Saves Money on Trash Bill	Residential Garbage, Recycling and Composting
Can I Recycle This?	Recycle	Portland Curbsider
Always Recycle These Items	What You Can Do	Say Goodbye to your holiday tree
Don't Recycle These Items?	Recycling Service	Portland's Wishful Recycling Program
Recycling Tips	What can I recycle?	Spotlight on Holiday Waste
Recycle And Reuse Drop-Off Center	How to prepare your recycling	Keep your community clean
What do I do with...?	What happens to my recycling?	Recycle right. Recycle more. Recycle often.
Austin's Zero-Waste Goal	Why think about waste?	SF Recycling Myths
Trash And Recycling Guide	You can divert waste!	Recycling & Composting FAQs
View Your Collection Schedule	Recycle With Us	Zero Waste FAQs

Get Rid of Hazardous Waste	Recycle Food Scraps with Organics Recycling	Striving for Zero Waste
Trash & Recycling Tips	I recycle Organics. Do you?	Sfrecycles.org
WasteWise Denver	Why Participate in Organics Recycling	How to Recycle & Compost
Recycling & Composting Requirements	Recycle At Home	Recycling is the thing to do!
Recycle At Your House	Reduce & Reuse	What goes in your blue bin
Look up recycling day	Where does it go?	And what does not
What Bin Does It Go In?	Buy a Compost Bin – Save \$20	The Ultimate Waste Disposal Guide
Recycle With Us	Free Paint and Other Home Products Available!	Recycling 101
2018 All In Recycling Guide	Coming Soon: City Clean-Up Events	How to Recycle
Recycle All of these items together!	Ramsey Recycles	Small steps. Big Impact.
Thank you for Recycling!	Recycling At Home	How to Recycle
Recycling, Organics & More	General Tips	Recycle These Items

Question 7: Is there a specific marketing campaign for recycling??	
Yes	21
No	6

Question 8: What is the name of the marketing campaign and what is it trying to achieve?	
Name	What It Is Trying To Achieve
Austin Recycles	What and how to recycle, get people to participate - learn how and what to recycle, inform people of the drop-off center and what it will accept
Denver Recycles	To promote residential recycling, reduce waste and "encourage environmentally responsible purchasing and disposal habits among Denver residents," to promote residential recycling, reduce waste
Minneapolis Recycles	Get people to participate - learn how and what to recycle
National Zero-Waste Night Out	To turn National Night Out into a waste-free one through organics recycling under the theme of waste diversion.
(No name, but for organics)	This is intended to kick off organics recycling in Minneapolis

Philacycle	Philacycle is an innovative way to mobilize and motivate the whole community to think differently about waste. From eliminating litter on our streets to learning more about sustainable living online to volunteering at a variety of local events, we're empowering our friends, family and neighbors to help make the positive impact we'd all like to see in our city. Over time all of our efforts will help the City of Philadelphia reach our bold goal of becoming a zero-waste city by 2035.
Portland Recycles!	How and what to recycle.
SFRecycles	Understanding of recycling; how and what.
Saint Louis City Recycles	Tell people to recycle and explain what can and can't be recycled.
Saint Louis City Recycles: Small Steps. Big Impact.	This is a waste disposal guide, how to recycle and what, it is trying to help people understand how they can recycle and get involved with the organization.
2018 All In: St. Paul Recycles	Inform people how the recycling program works with single sort bins.
Ramsey Recycles	It is a guidebook for how to dispose of certain kinds of waste, tell people how and what to recycle

Question 9: Who are these campaigns targeting?	
Adults	24
Children	1
Both	2

Question 10: Is the purpose of the piece include how, what or why to recycle?			
	How	What	Why
Emphasized	21	22	5
Mentioned	5	4	16
Not At All	1	1	6

Question 11: What is the level of focus for this material?	
City/State	26
National	1
Global	0

Question 12: What images are used in the materials?	
What to recycle	

Collection bin, girl holding plastic bottles, compost and garbage truck
Recyclable goods
Collection bins, people recycling, recyclable materials, collection truck
Recycling truck in Boston
Collection bin, examples of recyclables and non-recyclables, a child recycling, Denver cityscape, outdoor gardening
Denver skyline, recyclables, collection bins,
Collection bins, recyclable materials, Children holding a sign that says "Recycle More" Denver cityscape
Some infographics, collection bins, recyclable items
Collection bin and two girls
Collection bin and examples of organics
Collection bin, recyclable materials
Recycling Cart, recyclable materials, non-recyclable materials, city landscape
Collection bin, recyclables, non-recyclables,
Woman holding a soup can up to the camera
Collection bins, recyclable goods, people who work in the recycling department, calendar with graphics,
Collection bins, recyclable goods, people recycling
Recycling container, recycling truck with staff, recyclable and non-recyclable materials.
Trash, composting, recyclables, collection bins, recycling facility, SF skyline, where the compost goes back to nature
Light on imagery. Shows some children recycling and a picture of a plastic container.
Collection bin, recyclable materials, non-recyclable materials
Collection bin, recyclable materials, non-recyclable materials, people recycling, collection trucks, superman
Recyclable goods, people recycling, actual locals taking the pledge to recycle
Recycling Cart, recyclable materials, woman positioning cart in alley
Collection bins, people recycling, recyclable materials, with a woman eating canned soup on the cover
Organics, composting, old furniture and paint.
Kids recycling - very few images

Question 13: What was the functional attitude theme of the coverage?						
	Utilitarian	Ego Defensive	Value Expressive	Knowledge	Social Adjustive	Social Identity
Emphasized	4	1	0	22	3	2
Mentioned	13	0	3	5	10	7
Implied	0	11	1	0	6	0

Not At All	10	15	23	0	8	18
------------	----	----	----	---	---	----

Question 14: How was the utilitarian attitude function present?	
Emphasized	<p>It provides a list of "rewards" including, "Keeping organics out of the trash reduces the amount of garbage we send to the waste-to-energy facility." "You may be able to save money by getting smaller or fewer garbage cart(s)."</p> <p>"Organics recycling turns what otherwise would have been trash into nutrient-rich compost for improving soil in community gardens, along roads and parks, and on farm fields."</p>
Emphasized	<p>Avoid Punishment: "Everyone in San Francisco is required to keep their recyclables, compostables, and trash separate." "San Francisco's Mandatory Recycling and Composting Ordinance requires San Francisco residents and businesses to properly separate recyclables and compostables and keep them out of the landfill. Learn more about San Francisco's Mandatory Recycling and Composting Ordinance (PDF)." "Residents and businesses are required to subscribe for adequate recycling, composting, and trash service and use them properly. The Department of the Environment strives to educate and assist. Fines may be given in cases of non-compliance."</p> <p>"When materials are not reused or recycled and sent to the landfill, valuable resources are wasted and greenhouse gasses are emitted into the atmosphere. Compostable materials, like food scraps and yard trimmings that are sent to landfills produce methane, a potent greenhouse gas which is up to 72 times more potent than carbon dioxide. San Francisco's Zero Waste program significantly reduces these emissions..."</p>
Emphasized	<p>Rewards: "Your efforts help to reduce trash sent to landfills, save natural resources, save energy, reduce pollution and greenhouse gases, create jobs, & save money..." "composting is good for your yard and garden, good for the environment, fun and easy to do!"</p> <p>Avoiding punishment: "Disposing of electronic waste in your trash can, cart or dumpster is against state law."</p>
Emphasized	<p>Get rewards: Benefits of recycling are listed on landing page. Philacycle is a reward program which gives points for recycling, learning online, mobile check-ins, volunteering, recruiting neighbors. These are redeemed for deals at local businesses.</p> <p>Avoid Punishments: "Even with all of our great efforts, some unaccepted items are still ending up in recycling bins, like plastic bags, Styrofoam™, electronics and more. These items can damage recycling machinery and slow down the process."</p>

Mentioned	<p>Avoid Punishment: "Recycling is good for the environment, and it's the law— City ordinance bans recyclable paper, cardboard, glass and plastic bottles, and aluminum and tin cans from garbage containers."</p> <p>"If garbage is found in your recycling you will get a warning. If it is excessively contaminated with garbage it will not get picked up."</p> <p>"Garbage containers that contain more than 10 percent of recyclables will not be emptied. Haulers will leave instructions to remove recyclables before the following week's collection. Carefully follow the instructions on the tag to avoid an extra garbage charge."</p>
Mentioned	Avoiding punishment is mentioned, "It's illegal to throw florescent light bulbs in the trash because they contain mercury" "State law prohibits leaves, grass clippings, brush & other plant material from being mixed with your trash"
Mentioned	Decreasing punishments: "minimizing the amount you send to the landfill" and getting rewards "more than 1 million people are employed in the recycling and reuse industry" "you can prevent pollution, save money, conserve natural resources and help your community"
Mentioned	The reward is listed: "Reducing waste at your national night out can help divert tons of material from landfills and burners, saving water, energy and reducing air pollution." The punishment is also listed as of the trash you created, "...more than half could have been recycled and composted" or "more than 40% of material we throw away can be recycled."
Mentioned	It talks about transforming waste into resources and keeping our community clean.
Mentioned	"By composting organic material, residents help save space in the landfill and reduce greenhouse gas emissions." This is like a reward or payoff.
Mentioned	"what are the benefits of recycling?" section tells you what could be done with the items you recycle. It's a tradeoff, a reward.
Mentioned	Avoiding punishment/consequences: "Throwing away household hazardous waste in the trash or pouring it down the drain is dangerous and harmful to the environment." This isn't directly related to recycling, except through reuse programs.
Mentioned	A hint of this in that is says "...St. Paul has recycled 40 million pounds (19,000 tons) of material instead of sending it to the trash" which is a tradeoff - recycling to avoid trash going to landfills (a punishment). "Thank you for recycling" seems like an award to - being thanked.
Mentioned	It mentions benefits: Recycling creates jobs, "There are more than 16,000 recycling-related jobs in the STL Metro Area!" and punishments/consequences: "Sending trash to the landfill costs the city \$18 per ton more than recycling"

Mentioned	As part of the knowledge, some of the knowledge includes tradeoffs/advantages/rewards for recycling: "Recycling one ton of office paper can save the energy equivalent of consuming 322 gallons of gasoline. Recycling just one ton of aluminum cans conserves more than 152 million Btu, the equivalent of 1,024 gallons of gasoline or 21 barrels of oil consumed. Plastic bottles are the most recycled plastic product in the United States as of 2014, according to our most recent report. Recycling just 10 plastic bottles saves enough energy to power a laptop for more than 25 hours."
Mentioned	Avoid punishment, "If you don't comply with our regulations, you may receive a "green ticket" from our Code Enforcement Division."
Mentioned	Recycle correctly to avoid contamination in the recycling stream, "A recycling expert explains why "wishful recycling" can do more harm than good."

Question 15: How was the ego defensive attitude function present?	
Emphasized	"It's the thing to do" is the main title, which would cause guilt to those who don't recycle
Implied	A hint of guilt is suggested in an ad that was added to the last page of the brochure, "Cook it, store it, share it. Just don't waste it." Same thing with this statement, "Every American wastes 290 pounds of food a year." This has more to do with food waste than recycling, although it has implications for organics recycling.
Implied	Not explicitly telling the reader that they're bad, but at the same time promoting the unpleasant emotion of guilt: "More than 40% of material we throw away can be recycled" "The average person in the Twin Cities generates seven pounds of waste each day. That's enough to fill the former Metrodome 11 times each year - and more than half could have been recycled and composted."
Implied	Stir feelings of guilt and obligation: "When materials are not reused or recycled and sent to the landfill, valuable resources are wasted and greenhouse gasses are emitted into the atmosphere."
Implied	This message can cause guilt; you aren't doing enough: "...we are still throwing way more than 29,000 tons of valuable recyclable paper each year..."
Implied	"Even with all of our great efforts, some unaccepted items are still ending up in recycling bins, like plastic bags, Styrofoam TM , electronics and more. These items can damage recycling machinery and slow down the process."
Implied	"According to the Natural Resources Defense Council (NRDC), 40% of food in America is wasted! And in Denver almost half of that wasted food comes from single family homes like yours."
Implied	Explaining the benefits of recycling, people may feel guilt. For example, "If an average family of four were to recycle all of its mixed plastic waste, nearly 340 pounds of carbon equivalent emissions could be reduced each year."
Implied	This line could induce guilt, "Throwing away household hazardous waste in the trash or pouring it down the drain is dangerous and harmful to the environment." There is also a section that says "...do your part to achieve Zero Waste!"

Implied	They don't tell the reader that they should feel bad, but they imply it, "Half of what St. Louis residents throw away in the trash can easily be recycled!"
Implied	"A recycling expert explains why "wishful recycling" can do more harm than good." "People put items in the recycling cart that they think might be recyclable or should be recyclable, and they may think they're doing the right thing by not putting it in the garbage. But in fact they are making it more difficult to recycle the items manufacturers actually need." - should make people feel guilty if they do this wrong.

Question 16: How was the value expressive attitude function present?	
Implied	It assumes the reader cares about recycling/organics and provides an opportunity for them to express their green values by organizing a zero-waste night out. It doesn't acknowledge explicitly that the reader is a green person.
Mentioned	It acknowledges what the reader knows and values, "You know the importance of saving energy and resources by recycling as much as you can"
Mentioned	"You recycle at home and buy recycled products at the store because it's good for the environment and saves you money."
Mentioned	They have an opportunity for people to participate in a contest: "[Re]verse pitch finale" a competition to come up with plans to repurpose/recycle waste. This voluntary behavior reflects their interest/values towards recycling.

Question 17: How was the knowledge attitude function present?	
Emphasized	Lots of information about how to recycle, how to make gifts that are reused or recycled, what can and cannot be recycled. This is the focus of this piece - how to recycle correctly.
Emphasized	Primarily focused on instructions on how and what to recycle. "Find Your Garbage and Recycling Company" "Portland Composts!" "Residential Garbage, Recycling and Composting Guide"
Emphasized	"Where does it go? Your top recycling questions answered" "Some items that aren't accepted in curbside household recycling can be recycled at Seattle's Recycling & Disposal stations. This includes building materials and vehicle batteries and tires. Reusing items also keeps them out of the waste stream. See ideas at Reduce, Reuse and Exchange." Lots of videos to explain the process to residents. "But what happens to your recyclables between your house and the manufacturers who make recycled products? Recycling at home is just the first step in making new products from old ones."
Emphasized	Provides instructions on what to recycle and where to do that. This is the primary objective of this piece. Also provides some information on waste, but mostly food waste, "Every American wastes 290 pounds of food a year."

Emphasized	Instructions on how to recycle, "What goes in your blue bin and what doesn't." They also provide quizzes to test your knowledge of recycling and they have case study stories on how places, like Carver Elementary School, have made a difference with recycling. They have a page on "What's in St. Louis Trash" the program also offers to come in and train people on recycling at their request.
Emphasized	Provides instructions on how and what to recycle. This is the primary goal of this piece. Also provides information on Minneapolis' trash habits today "More than 40% of material we throw away can be recycled" "The average person in the Twin Cities generates seven pounds of waste each day. That's enough to fill the former Metrodome 11 times each year - and more than half could have been recycled and composted."
Emphasized	Where SF was years ago, and where they are today. "San Francisco diverts 80% (1,593,830 tons diverted in 2010) of its discards from the landfill." How to recycle and what, and myth busting around recycling and composting.
Emphasized	Information about how and what to recycle, how to reduce and reuse for less waste. Plus, information about current Denver recycling practices: "Denver residents have proven they are great recyclers. However, we are still throwing way more than 29,000 tons of valuable recyclable paper each year with much of that being cardboard" and "Organic material is the single largest item that is thrown away by Denver households and accounts for more than 50% of what is taken to the landfill." Or, "It takes more than 17 million barrels of oil per year to produce the plastic for the bottles we use, yet only a fraction of plastic bottles in the U.S. get recycled."
Emphasized	"FAQ Curbside Recycling" "During fiscal year 2014, a record 127,700 tons of recyclable materials were collected from Philadelphia resident!" "What You can Recycle" "What to Keep Out of the Bin"
Emphasized	It provides news articles and blog posts. The homepage is about how, what and when to recycle, for example "What do I do with..." There is also a graphic showing what makes up Austin trash right now (except I couldn't get the webpage to open). They also explain why to compost with videos.
Emphasized	What can and cannot be recycled with explanation, "Contaminates in the recycling stream increases the overall processing cost, can damage the sorting equipment and devalues the marketability of the recyclables." This is on the landing pages and is the biggest message here. The "What are the benefits of recycling" section also provides great information.
Emphasized	How and what to recycle is the primary communication in this material
Emphasized	Provides instructions on how and what to recycle. This is the primary goal of this piece. Also provides information on St. Paul's progress towards recycling.

Emphasized	What and how to recycle is primary message, plus some information on recycling in St. Louis. "65 pounds recycle per minute in St. Louis City!" and "Half of what St. Louis residents throw away in the trash can easily be recycled!"
Emphasized	<p>Information about what recycling is and how it benefits people: "Recycling one ton of office paper can save the energy equivalent of consuming 322 gallons of gasoline. Recycling just one ton of aluminum cans conserves more than 152 million Btu, the equivalent of 1,024 gallons of gasoline or 21 barrels of oil consumed. Plastic bottles are the most recycled plastic product in the United States as of 2014, according to our most recent report. Recycling just 10 plastic bottles saves enough energy to power a laptop for more than 25 hours."</p> <p>How and what to recycle.</p> <p>"When you throw something away, where does it go?"</p>
Emphasized	The objective of this page is to tell people how and what to recycle.
Emphasized	How and what to recycle is the primary communication in this material
Emphasized	How and what to recycle is the primary communication in this material
Emphasized	What and how to recycle is primary message.
Emphasized	<p>Keep people abreast of events or seasonal activities related to recycling/composting:</p> <p>"Each year, Ramsey County collects enough tree and shrub material to fill over 450 semis with mulch!"</p> <p>"Waste collected in Ramsey and Washington Counties and beyond is hauled to the Recycling & Energy (R&E) Center to be turned into fuel for energy."</p>
Emphasized	What to recycle is the primary message
Emphasized	This is a brief guide explaining how recycling works in Austin, what to recycle and schedules for pickup.
Mentioned	<p>Provides information relevant to the reader about current status of compost:</p> <p>"Food scraps make up the largest portion of residential trash - about one-third of what the average Minnesota household throws away."</p>
Mentioned	Video of "where does the trash go?" with a host interviewing people at Austin music festivals about where the waste goes. Interesting to learn people's level of knowledge.

Mentioned	<p>"In 2017 Denver households generated about 234,000 tons of waste materials"</p> <p>"According to the Natural Resources Defense Council (NRDC), 40% of food in America is wasted! And in Denver almost half of that wasted food comes from single family homes like yours. The production, distribution and wasting of food has an enormous environmental and economic impact on our country. The NRDC estimates that the average family of four throws away about \$1,500 worth of food each year."</p>
Mentioned	The image tells us what to recycle, pictures of scraps.
Mentioned	It provides a visual list of what can be composted, and explains how to sign up.

Question 18: How was the social adjustive attitude function present?	
Emphasized	The Zero Waste Goal has supporting documents and videos explaining why this is being done and how San Francisco is supporting it. They call out the #SFThingToDo when providing guidance on recycling, and they call out how much they have already done and are a leader. If you live in SanFran this is what you do.
Emphasized	"I recycle Organics. Do you?" This is putting peer pressure on others to join in.
Emphasized	"Join more than 44,000 households that have signed up for organics recycling..."
Implied	"Raleigh Recycles!" is the opening sentence on the page. This isn't a campaign, just a statement that may tell people that others are doing this, you should too.
Implied	"Minneapolis Recycles" is on the website, suggesting that others are doing this in the community already.
Implied	"Ramsey Recycles" is on the website, suggesting that others are doing this in the community already.
Implied	Subtle cue that "Saint Louis City Recycles" suggesting that others are doing this collectively
Implied	Subtle cue that "Austin Recycles" suggesting that others are doing this collectively.
Implied	There is a hashtag #75%By2030 on the back page, but it isn't mentioned anywhere else or explained. I'm assuming this is a collective benefit to motivate people to work together towards a goal, join in. The campaign "Ramsey Recycles" may imply a subtle cue into group participation.
Mentioned	On the landing page it states, "The City of Portland has a goal to reduce waste and to raise the recovery rate to 90 percent by 2030. Portlanders can help reach these goals by finding resources and staying informed to make the best choices at work and at home." I didn't see this discussed anywhere else on the website.

Mentioned	There is a side banner on the website that demonstrates how many in the community are already doing this: "2,513 of your neighbors have taken the pledge to recycle - count me in!"
Mentioned	Grasscycling is mentioned with "More and more Denver residents are taking their recycling efforts one step further y skipping the time consuming task of bagging clippings and are instead leaving them on the lawn after mowing." This isn't the residential recycling I was targeting, but it is recycling. Also, it says "Denver residents have proven they are great recyclers" demonstrating that Denver as a community is actively recycling as a group. The name of the campaign reinforces this "Denver Recycles."
Mentioned	They mention a zero-waste goal for the city by 2035 on the website, but they don't talk about it what it is in detail. I couldn't find a page dedicated to this.
Mentioned	There is an invitation to take a pledge to recycle. It mentions that "87% of Austinites recycle" which adds some element of joining the group. Finally, there is a social goal of "Zero Waste by 2040". Strangely though, this goal isn't explained on the website very well - you need to read a dense "master plan" and/or "strategic plan" to understand it.
Mentioned	"HELP US REACH OUR 2020 GOAL BY RECYCLING AND COMPOSTING MORE"
Mentioned	Denver's 2020 Sustainability Goal is mentioned, with "Denver Recycles" being the program name that also suggests community participation.
Mentioned	"The City of Austin's Zero Waste Goal is to reduce the amount of waste sent to area landfills by 90 percent by 2040." "Zero Waste by 2040" is a collective goal for the city of Austin, which suggests that we're all pitching in, and you should too, "...you can do your part to achieve Zero Waste!"
Mentioned	A hint of this in that it says, "some neighborhoods have seen a 30% increase in recycling from 2016 - great job St. Paul!" This suggests that others in your community are doing this. Also, program is called St. Paul Recycles which implies that we're doing this as a community.
Mentioned	There is an invitation to "Join your neighbors in taking small steps to make a BIG IMPACT in St. Louis! Take our pledge online at www.STLCityRecycles.com " it suggests that the city is doing this and you can (should) too. Also the name of the campaign "Saint Louis City Recycles" suggests that others are doing this collectively.

Question 19: How was the social identity attitude function present?	
Emphasized	Pledger highlight, "I recycle because it's a way to help Earth" "I recycle because I need to minimize waste and its impact on Earth" "I recycle because I want to limit my impact on Earth" as well as case study spotlights like the one on Carver County elementary school. They also have an ambassador program to teach others how to recycle.

Emphasized	The person who puts this yard poster up is telling people that they are a resource. They are drawing attention to themselves as an organic recycler.
Mentioned	"Zero Waste Block Leaders" are highlighted in each issue with their picture and a short story about why they recycle. This recognition is in line with social identity. The opportunity to win and be recognized for the [Re]verse contest is also a form of social identity.
Mentioned	"As you advertise your NNO event, be sure to highlight your zero-waste goals and ask your neighbors to help meet them" - the reader is encouraged to be a source of green inspiration to others. "Take the opportunity to see if your neighbors have any questions about how to dispose of their household items" "Share your success with your neighbors!" They are being told to draw attention to themselves as a resource for a cause they believe in.
Mentioned	Part of the Philacycle program, you can volunteer to be a Philacycler Captain, "What you'll do: Attend one of our four trainings per year, lead volunteers at an event or clean up, educate neighbors and learn online." This gives you the opportunity to shine as a recycler.
Mentioned	There is a "Zero Waste Block Leader" that people can opt into which puts you in a position to tell people that you're the neighborhood lead on recycling. The profiles are available for viewing online.
Mentioned	This material encourages the reader to share the message with others, "Ask your property owner or manager to start recycling at your building." There is also an ambassador program to help the reader to communicate their stance on recycling as a leader. "Become a Recycling Ambassador and help encourage others to recycle" with a picture of superman next to it.
Mentioned	"Recycling Block Leaders We always need more help in encouraging participation in our recycling programs, bringing awareness to the importance of waste reduction, teaching others how to compost at home and staffing tables at festivals and events. Our Raleigh Recycling Block Leader group is a loose group allowing you to decide your level of time commitment. Once you sign up and join the Recycling Block Leader email distribution list you can do as little as forward emails to your neighbors and friends, on up to making your neighborhood your own "project" and distributing information and containers we provide."
Mentioned	"Sign up to be a recycling block leader and help educate your neighbors on waste reduction, reuse, recycling, organics recycling and more!" "If you'd like, we will provide you with a "Recycle more. Ask me how." yard sign to help your neighbors identify you as the expert on your block."

Question 20: Is the message directed towards individual (you) or collective (we)?	
Individual - 1	21
2	1

Both - 3	2
4	2
Collective - 5	1

Question 21: Is the focus on individual or collective benefits?	
Individual - 1	0
2	0
Both - 3	4
4	4
Collective - 5	11
No benefits	8

Appendix 4 – Full Interview Questionnaire

Cognitive Attitude

Please check a space that best represents your attitude towards recycling:

I think that performing recycling is...

Bad	___:___:___:___:___:___	Good
Foolish	___:___:___:___:___:___	Wise
Unfavorable	___:___:___:___:___:___	Favorable

Affective Attitude

How strongly do you agree/disagree with the following statements?

When I recycle or imagine myself recycling, I feel good.

1-Strongly disagree 2- Disagree 3-Neutral 4-Agree 5-Strongly agree

When I recycle or imagine myself recycling, I feel pleasant.

1-Strongly disagree 2- Disagree 3-Neutral 4-Agree 5-Strongly agree

When I recycle or imagine myself recycling, I feel positive.

1-Strongly disagree 2- Disagree 3-Neutral 4-Agree 5-Strongly agree

When I recycle or imagine myself recycling, I feel satisfied.

1-Strongly disagree 2- Disagree 3-Neutral 4-Agree 5-Strongly agree

Recycling Beneficiary

Who do you think benefits from recycling?

Would you be interested in learning how you personally could benefit from recycling?

Recycling Behavior

Can you tell me about the recycling service that is available to you?

Do you use those services? Why or why not?

What could cities do to make you increase your recycling efforts?

Priority Function Message Testing

The following are messages that can be found in recycling materials from various cities around the U.S. Please indicate to what extent the following messages motivate you to recycle, using the following scale:

Attitude Function: Utilitarian – Rewards Collective

Your recycling efforts help to reduce trash sent to landfills and save natural resources.

1-Not motivating at all 2-Slightly motivating 3- Moderately motivating 4-Very motivating 5-Extremely motivating

Attitude Function: Knowledge – What and How

Here is a list of what can go in your recycling bin and what cannot.

1-Not motivating at all 2-Slightly motivating 3- Moderately motivating 4-Very motivating 5-Extremely motivating

Attitude Function: Utilitarian – Punishment Individual

If you do not separate your recyclables from your trash, the city will fine you.

1-Not motivating at all 2-Slightly motivating 3- Moderately motivating 4-Very motivating 5-Extremely motivating

Attitude Function: Ego Defensive – Implicit

The average person generates seven pounds of waste each day, half of which could be recycled.

1-Not motivating at all 2-Slightly motivating 3- Moderately motivating 4-Very motivating 5-Extremely motivating

Attitude Function: Value Expressive

Your recycling efforts reflect your values as an environmentally-conscious person.

1-Not motivating at all 2-Slightly motivating 3- Moderately motivating 4-Very motivating 5-Extremely motivating

Attitude Function: Utilitarian – Punishment Collective

Each year, it costs the city 1 million dollars to remove recyclables from citizens' trash for recycling.

1-Not motivating at all 2-Slightly motivating 3- Moderately motivating 4-Very motivating 5-Extremely motivating

Attitude Function: Utilitarian – Rewards Individual

Each time that you put recycling out for collection, the city will reward you with \$10.

1-Not motivating at all 2-Slightly motivating 3- Moderately motivating 4-Very motivating 5-Extremely motivating

Attitude Function: Knowledge – Why, Benefits

Recycling one ton of office paper can save the energy equivalent of consuming 322 gallons of gasoline.

1-Not motivating at all 2-Slightly motivating 3- Moderately motivating 4-Very motivating 5-Extremely motivating

Attitude Function: Social Adjustive

The city has a goal of reducing waste and increasing the recycling rate to 90% by 2030.

1-Not motivating at all 2-Slightly motivating 3- Moderately motivating 4-Very motivating 5-Extremely motivating

Attitude Function: Social Identity

You can become a recycling leader in your neighborhood and educate your neighbors on how to recycle.

1-Not motivating at all 2-Slightly motivating 3- Moderately motivating 4-Very motivating 5-Extremely motivating

Attitude Function: Ego Defensive - Explicit

It is your responsibility to recycle.

1-Not motivating at all 2-Slightly motivating 3- Moderately motivating 4-Very motivating 5-Extremely motivating

*Behavioral Intentions***Based on the messaging that you rated as the most motivating, do you believe this will impact your participation in recycling going forward?***Directional Message Testing***Which of these two sentences appeal to you the most? Why?**

- We can prevent pollution, together.
- You can make our environment cleaner.

*Demographic Information***What year were you born?****What is the highest level of education you have completed?**

- ☐ High school
- ☐ Some college
- ☐ Technical or associates degree
- ☐ Bachelor's degree
- ☐ Some graduate school
- ☐ Graduate or professional degree

Appendix 5 – Respondent Interview Questionnaire

Please check a space that best represents your attitude towards recycling:

I think that performing recycling is...

Bad	___:___:___:___:___:___:___	Good
Foolish	___:___:___:___:___:___:___	Wise
Unfavorable	___:___:___:___:___:___:___	Favorable

How strongly do you agree/disagree with the following statements?

When I recycle or imagine myself recycling, I feel good.

1-Strongly disagree 2- Disagree 3-Neutral 4-Agree 5-Strongly agree

When I recycle or imagine myself recycling, I feel pleasant.

1-Strongly disagree 2- Disagree 3-Neutral 4-Agree 5-Strongly agree

When I recycle or imagine myself recycling, I feel positive.

1-Strongly disagree 2- Disagree 3-Neutral 4-Agree 5-Strongly agree

When I recycle or imagine myself recycling, I feel satisfied.

1-Strongly disagree 2- Disagree 3-Neutral 4-Agree 5-Strongly agree

The following are messages that can be found in recycling materials from various cities around the U.S. Please indicate to what extent the following messages motivate you to recycle, using the following scale:

Your recycling efforts help to reduce trash sent to landfills and save natural resources.

1-Not motivating at all 2-Slightly motivating 3- Moderately motivating 4-Very motivating 5-Extremely motivating

Here is a list of what can go in your recycling bin and what cannot.

1-Not motivating at all 2-Slightly motivating 3- Moderately motivating 4-Very motivating 5-Extremely motivating

If you do not separate your recyclables from your trash, the city will fine you.

1-Not motivating at all 2-Slightly motivating 3- Moderately motivating 4-Very motivating 5-Extremely motivating

The average person generates seven pounds of waste each day, half of which could be recycled.

1-Not motivating at all 2-Slightly motivating 3- Moderately motivating 4-Very motivating 5-Extremely motivating

Your recycling efforts reflect your values as an environmentally-conscious person.

1-Not motivating at all 2-Slightly motivating 3- Moderately motivating 4-Very motivating 5-Extremely motivating

Each year, it costs the city 1 million dollars to remove recyclables from citizens' trash for recycling.

1-Not motivating at all 2-Slightly motivating 3- Moderately motivating 4-Very motivating 5-Extremely motivating

Each time that you put recycling out for collection, the city will reward you with \$10.

1-Not motivating at all 2-Slightly motivating 3- Moderately motivating 4-Very motivating 5-Extremely motivating

Recycling one ton of office paper can save the energy equivalent of consuming 322 gallons of gasoline.

1-Not motivating at all 2-Slightly motivating 3- Moderately motivating 4-Very motivating 5-Extremely motivating

The city has a goal of reducing waste and increasing the recycling rate to 90% by 2030.

1-Not motivating at all 2-Slightly motivating 3- Moderately motivating 4-Very motivating 5-Extremely motivating

You can become a recycling leader in your neighborhood and educate your neighbors on how to recycle.

1-Not motivating at all 2-Slightly motivating 3- Moderately motivating 4-Very motivating 5-Extremely motivating

It is your responsibility to recycle.

1-Not motivating at all 2-Slightly motivating 3- Moderately motivating 4-Very motivating 5-Extremely motivating

What year were you born?

What is the highest level of education you have completed?

- ☐ High school
- ☐ Some college
- ☐ Technical or associates degree
- ☐ Bachelor's degree
- ☐ Some graduate school
- ☐ Graduate or professional degree

Appendix 6 – Interview Transcript

Question 1: Where do you live?	
Respondent 1	Fairbanks, Alaska
R2	Brooklyn, New York

R3	Minneapolis, Minnesota
R4	Seattle, Washington
R5	Seattle, Washington
R6	Minneapolis, Minnesota
R7	Denver, Colorado
R8	Detroit, Michigan
R9	Austin, Texas
R10	Eagan, Minnesota
R11	Fort Bragg, California
R12	Plymouth, Minnesota
R13	San Francisco, California
R14	Cedar Falls, Iowa
R15	Washington D.C.
R16	Milwaukee, Wisconsin

Question 2: Please check a space that best represents your attitude towards recycling. I think that performing recycling is...			
Respondent	Bad / Good	Foolish / Wise	Favorable / Unfavorable
R1	7 - Good	7 - Wise	7 - Favorable
R2	7 - Good	7 - Wise	7 - Favorable
R3	6 - Good	6 - Wise	7 - Favorable
R4	7 - Good	7 - Wise	7 - Favorable
R5	7 - Good	7 - Wise	7 - Favorable
R6	7 - Good	7 - Wise	7 - Favorable
R7	7 - Good	7 - Wise	7 - Favorable
R8	6 - Good	7 - Wise	7 - Favorable
R9	7 - Good	7 - Wise	7 - Favorable
R10	2 - Bad	7 - Wise	4- Unfavorable/Favorable
R11	7 - Good	7 - Wise	7 - Favorable
R12	7 - Good	6 - Wise	6 - Wise
R13	7 - Good	6 - Wise	7 - Favorable
R14	7 - Good	7 - Wise	7 - Favorable
R15	7 - Good	7 - Wise	7 - Favorable
R16	7 - Good	7 - Wise	7 - Favorable

Question 3: How strongly do you agree/disagree with the following statements?				
Respondent	When I recycle or imagine myself recycling, I feel good.	When I recycle or imagine myself recycling, I feel pleasant.	When I recycle or imagine myself recycling, I feel positive.	When I recycle or imagine myself recycling, I feel satisfied.
R1	5 - Strongly agree	5 - Strongly agree	5 - Strongly agree	5 - Strongly agree
R2	4 - Agree	4 - Agree	5 - Strongly agree	5 - Strongly agree
R3	3 - Neutral	3 - Neutral	4 - Agree	3 - Neutral
R4	5 - Strongly agree	5 - Strongly agree	5 - Strongly agree	5 - Strongly agree
R5	4 - Agree	4 - Agree	4 - Agree	4 - Agree
R6	5 - Strongly agree	4 - Agree	4 - Agree	4 - Agree
R7	5 - Strongly agree	5 - Strongly agree	5 - Strongly agree	5 - Strongly agree
R8	4 - Agree	3 - Neutral	4 - Agree	4 - Agree
R9	4 - Agree	4 - Agree	4 - Agree	4 - Agree
R10	3 - Neutral	3 - Neutral	3 - Neutral	3 - Neutral
R11	5 - Strongly agree	5 - Strongly agree	5 - Strongly agree	5 - Strongly agree
R12	4 - Agree	3 - Neutral	4 - Agree	4 - Agree
R13	4 - Agree	2 - Disagree	4 - Agree	4 - Agree
R14	5 - Strongly agree	4 - Agree	5 - Strongly agree	4 - Agree
R15	4 - Agree	3 - Neutral	4 - Agree	3 - Neutral
R16	4 - Agree	3 - Neutral	5 - Strongly agree	4 - Agree

Question 4: Who do you think benefits from recycling?	
R1	I get instant gratification from it, but the community you're living in benefits - I would like to think the community benefits. Every time I go there is line of people dropping tings off, but they may not know they're benefiting from it. Less trash into landfills, trash overall.
R2	Any person and animal who is living on earth, and I guess nature - basically any living being.
R3	Um...everyone. I think its people because it creates less waste. I don't see it as specific as the local community.
R4	I just think of the planet. But as an actual individual benefiting from it, I guess everybody?
R5	Oh gosh, everyone really. I'd say, my main motivator is the environmental impact – globally. When I think benefits is a silly question, but what.
R6	The earth and all living beings.

R7	I think it's more like a total community, total world, total environment mentality. So it's not like one individual benefits, but kind of just taking care of the resources we've been given. If I had to think of anyone...if I think of all of the bottles and all the trash in the ocean - I just kind of think of that. Sea and sea animals and where our trash ends up is what I think about.
R8	Mainly the companies that use recycled products. It is great for the earth, and I'm on board with that. They go off to recycling, but once they sort through it you've got to buy it all - pennies on the dollar - to make new milk jugs or soup cans, but the prices don't come down at the store, you know? They don't push that - they say it's to help the earth. But someone else is going to benefit from this a lot more.
R9	I think we all benefit from recycling. Everybody in the world because it helps the environment, they can use the materials again so we aren't wasting materials.
R10	I would think it's the environment and potentially our future generations.
R11	The future children - like my children, grandchildren, planet... I think everybody.
R12	My first thought is everybody - Well it's just efficient, you know, it's less waste and you need to consume less new materials and I guess those are the main reasons.
R13	I would say planet earth - I think it's from where I live. In California they feel very strongly about recycling and the environment. It's probably just the area that I live. I see the people around me participating in the same way I do.
R14	I would say everyone does, but more precisely the future generations.
R15	<p>When it works, everybody does.</p> <p>When does it not work?</p> <p>Well, the problem is that people put in things that cannot be recycled... contaminated products. The result is that China no longer accepts our recycled goods which is what we used to do in huge bulk. So a lot of the stuff in recycling is ending up in the same landfills as the garbage. The problem is that this is something that absolutely has to be addressed because we're going to die in our own filth, waste. I understand that some plastics can be recycled and others can't. The companies will say that they have to constantly clean their machines from those plastics because it's not the same as number 4 or 5, the heavier duty stuff that can be recycled. I...actually, DC government just sent out something, I don't know if it's very effective because it's a flyer that comes in with your utility bills, and uh, you know people don't read that, but I was reading it that you should just put all of them in the recycling loosely, no bags. I also saw that pizza boxes shouldn't go in there because they contaminate the cardboard. And I know everyone is putting it in there because they think it belongs, but it gets burned anyway. Don't worry; Amazon is coming to the rescue with all their cardboard. Mail likes it because it's a huge business.</p>

R16	<p>Humanity. I think we're looking at the future of humanity. I mean right now we can deal with it –throw it in a pile and crush it. But we have generations to come and I think that's what we need to be concerned about. When I was born, I think we had a couple hundred million, now we have three hundred million – that's a big percentage increase. You see it in the cities. A lot of waste – we're wasteful, we're a throwaway society. We better recycle some of that for future generations.</p>
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Question 5: Would you be interested in learning how you personally could benefit from recycling?	
R1	<p>Yeah.</p> <p>Do you think of personal benefits for yourself now?</p> <p>Yeah, far less trash means fewer visits to the dump.</p>
R2	<p>Yeah, I definitely would.</p> <p>Is that something that you feel you know a lot about currently or not very much?</p> <p>I know the basics, but not very much</p>
R3	<p>Yes, because I just don't readily see the benefits.</p>
R4	<p>Sure, I guess it's just a habit I have to recycle. So understanding how that would directly impact me would make it easier to explain why other people should. Cue people on why they should recycle if they don't; explain why it would directly benefit them.</p>
R5	<p>Sure.</p> <p>Is that something you feel you know a lot about already?</p> <p>Not really, I suppose. When I think of recycling, I don't ever really consider my benefits, it's more a greater good motivator.</p>
R6	<p>Yes.</p> <p>Is that something you know about currently?</p> <p>I haven't seen a lot of examples of that for me personally. I know that if you recycle the plastic for a six pack - I know how that helps living things, but not me. I know I dropped off two bags of clothes to Goodwill, and then I read an article and found out that 70% of Goodwill donations don't even make it to the floor, it just gets trashed.</p>
R7	<p>Sure.</p> <p>Do you feel like that's something you've considered before?</p> <p>Nope. There's also the reduce and reuse aspect, but no I've never thought about how recycling could benefit me.</p>
R8	<p>Sure.</p> <p>What benefits would you be looking for?</p> <p>Bottle deposit – earning rewards or money back for my efforts.</p>
R9	<p>Sure.</p> <p>Do you feel you know much about this now?</p> <p>Not very much</p>
R10	<p>No</p>

R11	Sure. I feel like the advertising is more about the planet and future generations – I mean besides the good feeling you get when you do recycle. Even though it feels like a drop in the bucket sometimes – especially when you go the Midwest.
R12	Sure Do you feel that that's something that you understand well now? Well, maybe. If it's more than the global benefit? I don't know if I could benefit more from that. Maybe I could get paid or something for recycling. So, I guess I would have an interest in knowing if there are benefits beyond what I know.
R13	No – it affects everybody whether they do it or not.
R14	Sure. Have you heard of personal benefits from recycling before? Mostly just that its doing something good with things that can be recycled rather than just throwing them away and putting them in landfills.
R15	Sure. Is this something that you are aware of currently? Uh, just vaguely. For example I know that my siblings, my brothers recycle aluminum cans in their garages - they fill them up and recycle them and then they can sell it. But I don't have a garage here so I don't collect it all. I put it in the recycle bin, but there's no monetary benefit for me.
R16	Well, it's always nice to know that you have some personal gain in it. I guess we hope that recycling is at least financially neutral. But if you could financially benefit from it that would be good. It would be good to know that.

Question 6: Can you tell me about the recycling service that is available to you?	
R1	<p>So if you live in city limits they have curbside garbage pickup, but if you don't they are literally transfer stations with dumpsters lining a fence and trucks pick them up for a landfill. It's weird because I grew up with curbside, and the dump was a special trip. There's stuff everywhere all the time, flying around all over. Dumpster divers throw stuff everywhere in transfer stations. The recycling center gets hauled off responsibly and that's less garbage that will get lost in the shuffle.</p> <p>The other thing is you don't have to pay to take your trash there; they started paying people to monitor that. My husband was aghast; he's been here 15 years. I told him they'd start charging soon, but they haven't yet; it's just more limited access and people on site to keep dumpster divers under control and there is a lot of drug activity there.</p> <p>In addition to trash, is recycling free too?</p> <p>It is free, they just... so it's called a borough here, like a county. They recently leased a place in the center of town to use as a recycling facility. No pickup, you have to go to them. Before city center – I wasn't able to figure out where the drop off site was... maybe the university? My friends would take it with them to the university so I never went there personally. I'd fill up a back and my roommates who worked there would take it with them. I'm pretty sure it ends up getting barged to Seattle. I don't think they can do the physical recycling here.</p>
R2	<p>At home we have I think its four different bin types that we separate in that is city wide. You'll get a fine if you don't do it. Maybe three? Plastics, paper, compostable/yard waste, and then general trash in a separate bin. At work we have trash cans just separated general recycling and trash. I'm not sure if we pay for that or not... I don't think so. I think we're taxed. I know my landlord pays for the separate bins and I know they are mandatory.</p>
R3	<p>The only recycling that I do is when we put empty bottles around the corner down the hall, and then at work and it's labeled by the different bins. And that's basically the extent of my recycling.</p>
R4	<p>The recycling service... we have regular trash, food and yard waste. The recycling is actually free; it's part of the whole service. That's a giant bin like a regular trash bin size. I can have the teeny tiniest trash bin, I don't have to pay for that because I'm composting more. Trash and food I pay for, but recycling is free.</p>
R5	<p>I live in a multi-unit apartment building, and we have a large waste area. Garbage dumpster, recycling dumpster and a compost bin. So, right outside my door so It's pretty easy.</p>
R6	<p>I only know that it's provided by the building. I don't know the name of it or where it goes. It's also not clear what I should be recycling.</p>

R7	We live in a house, and in the city of Denver there's no fee for trash or recycling. We have a bigger barrel we put our recycling in and leave it in the alley, and they come and pick it up every week. It's always really full. Even though it's a household of just two people we generate a lot of recycling.
R8	We have a recycling service through the trash company that does neighborhood trash pickup and we do use it. It's a container that sits outside and Jen and I both use it frequently. I'd say we use it weekly the same, and every week it goes the curb for pickup.
R9	<p>What we have is a large bin, single stream recycling, so everything they accept you throw in. They come once a week the same day as our trash day.</p> <p>Is recycling something you pay for? I think so – a fee we pay the county. I think it maybe comes on our water bill even? So I think it's through the county.</p>
R10	It's a big 55 gallon drum that I think I can put everything in and it's part of my association fee
R11	Well, basically we have as many recycle bins as we want for home and it's all one container so you put everything in it, which I think is the best, so we pay for garbage service probably 5 blue bins and I fill that up every week. I have curbside pickup at home – but you have to pay for it.
R12	There's pick up at your house, and there's drop off at one central location, and I pretty much know what they'll take. I can describe it if I needed to, same thing with the drop off.
R13	We have four types of recycling bins. One for garbage, one for bottles/cans and papers, one for yard waste like leaves, and one for compost. I don't do the compost one, but I would say that recycling is pretty full every week.
R14	At our home we have a commercial company, there were two but I'm not sure if both are in business, but you can sign up for it once a month and pay for it, maybe \$25 per month and they'll bring a can to your home. There are also recycling bins around town in two or three locations. And to be honest we aren't totally good at recycling everything...plastic for example we do that about once a week and bring our things. We don't do like tin cans, we're not very good. But paper and plastic we do and there's no cost to that.
R15	The city provides us with bins that we pay for through our taxes, not individually. Green for garbage and blue for recyclables. Once a week we put everything out, green and blue, and they'll come pick it up.

R16	<p>We've got blue bins where we're allowed to throw paper, plastic and glass in one bin. I think that's the biggest problem that I have as an individual - I've got to make sure I'm throwing recyclables in there. Even plastics - I think they've got 5 or 7 kinds, all different numbers and you're always looking on the bottom. We pull out the old card from the recycling organization to see what they'll accept and I've got to go look. We do that. We're, my wife is always questioning whether we can recycle certain things. They allow us to put it all in one bin and then somebody's got to separate all that, otherwise it's a waste for everyone. And I did hear that a lot of it does go back into the garbage because they're getting more recyclables than they can handle. I hope that's not true. I'd hope they're learning to become more efficient. But I haven't heard anything on that recently.</p>
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Question 7: Do you use [recycling] services? Why or why not?	
R1	<p>Yes. It's right down the street. I love recycling, I'm all about it. I get a weird about of satisfaction when dropping off the recycling. I get teased about it on a regular basis.</p>
R2	<p>Yes. Generally because we definitely know it's what we need to do to preserve the earth. And also because it's a law basically - a citywide mandate that we need to follow. If not we could get fined or our landlord would get fined by the city.</p>
R3	<p>Yes. The only recycling that I do is when we put empty bottles around the corner down the hall, and then at work and it's labeled by the different bins. And that's basically the extent of my recycling.</p>
R4	<p>Yes. I do it because I want to - I understand why they did it that way for money savings; it's a nice bonus.</p>
R5	<p>Yes. I mean really in Seattle it's so engrained in our culture. Even at restaurants you sort by waste, recycling and compost. I don't even really think about it... it's just a natural part of my day. I moved from Minnesota to Texas to Seattle. Midwest it was available, so I was exposed to it. Can't say I was avid about it growing up. In Texas there was absolutely no recycling available. So that prompted me to go above and beyond. So I would take all my recycling to Target because they would take my recycling. Then moving here it's engrained in our culture. So different.</p>
R6	<p>Yes. Anything that is plastic, glass or cardboard because I think those are the three categories that should be recycled.</p>

R7	<p>Yes, we recycle because we think it's the right thing to do. And even on a more practical note, we wouldn't have enough room in our trash if it had to have recyclables in it. We have our separate receptacles and it's just simple.</p> <p>I would say that when I think about how I was raised, obviously there's a huge component about how you view your waste. I lived in a house where we recycled and reused everything. There was a consciousness about not being wasteful...again it goes back to the expectation of that what's expected of you as a member of society.</p> <p>I think it's interesting...when I think of myself and how guilty I feel when I have to get a bottle of water and there are no recycling option around. I always feel guilty and a lot of the examples of motivation are what motivates you and I wonder if there was a guilt element to challenge people to change. What about, "by not doing this, you're doing this."</p>
R8	<p>Yes, just kind of a way of life now. In school that was a big thing, push you to recycle. And now there's more and more services available, and now it's just a part of our daily routine.</p>
R9	<p>Yeah, well it's just provided to us. It wasn't something we opted into. Our neighborhood provides it. We've always recycled so...Why wouldn't you do it?</p>
R10	<p>No. I just don't have that much to recycle...and maybe laziness, let's not lie.</p> <p>Is there something in particular that feels like extra effort to you? It's just so much easier to put everything in my trash can, I don't have to have separate into different bags, you know?</p> <p>Do you feel that the convenience factor outweighs the environmental benefit you told me about? I'd say that's why I don't have kids (laugh). I don't have future generations personally. I mean I have nieces/nephews... I just feel like I don't have that much stuff that needs to be recycled, but if I looked at that list of what can be recycled I'd probably find a lot more</p>
R11	<p>Yes, well, originally it was because I didn't want to pay for a bigger garbage bin and these were free with regular pickup. Then I just wanted to recycle more and asked for more bins. I pick through the garbage for recyclables.</p> <p>I feel terrible when I don't recycle – this is kind of new for me in the last few years. Just seeing the waste, not landfills, but people waste. Like Chick-fil-A and all the packaging they use for packaging...the straws...I can't take it. No containers; that's where I think it's going to go.</p>

R12	<p>Yeah – yes. Why? Well, there's no other way to get rid of some of that stuff. And, it's easy and you know I think you get some benefits. You get those general benefits, the ones that benefit everyone. There is no good way to get rid of electronics and flammable stuff, like oil. You can get rid of that at the center, but not old oil. That's too bad; both of those things are limitations. And I think you have to pay for those. And I'm not into that, I pay enough already.</p> <p>Are you charged for your recycling services? I don't know, I don't think so. My wife pays for that. All you have to do is be a resident for the drop off. But pick up at the house? My guess is that we don't pay anything extra for that. I think that's paid through general taxes.</p> <p>I learned a lot about recycling when I worked at an electronics retailer because vast quantities of electronics come back to business and get recycled. It's amazing the industry there is around it. I was amazed by the magnitude of it. It's pretty clever what people think they can do with it. My other thought would be that I hope it isn't a subsidized thing. I'm not in favor of subsidized stuff. I don't think it really is - I don't get the feeling that recycling is...it is clearly when it gets picked up at your house subsidized with tax dollars, but I don't think in general it's too heavily subsidized. I read an article in the paper recently, for some reason recycling had dialed back recently, but I forget why.</p>
R13	<p>Yes. I do use them because I can't get everything into the regular garbage and it costs a lot per month to get an extra garbage can and its size. Whether you recycle or not, they charge. It is required to recycle.</p> <p>How do you feel about the requirement to recycle? I'm not happy about it – to me it's a lot of extra work. It's a lot to haul from the backyard to the front and I get charged for it. I don't feel it's fair to be charged for something that I have to do. I don't like being forced into doing things; I understand the reason behind it.</p> <p>If the city didn't require you to recycle, do you think you would? Yes – I think I'd recycle about the same. I've been doing it so long that it's the natural thing to do now.</p>
R14	<p>Yes. Um, I just decided not to pay the extra fee to have them come to our house because the recycling bin is at the grocery store. If we had the service at our home we would do more cans, although we don't use too many of those. I don't believe in throwing things away in a landfill. I think recycling and reusing is a better use of what we have and adding less harm to the environment.</p>
R15	<p>Yes. One we're required to by law. You could get a penalty. I don't know what the penalty is, but I think it's printed. I have no idea what it is, just that it's possible. Same thing if you put your garbage out when you're not supposed to you can get a ticket in the front door. The other thing is because I believe it's the right thing to do. Things should be recycled.</p>

R16	Yes. I think it's become necessary. We're a wasteful society, we're becoming more populated and that creates more garbage and waste. I mean we have a big recycling pile here in Milwaukee and land comes at a premium. I don't how anyone could argue that recycling isn't good. We recycle and hope someone is capable of recycling it. I do my part.
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Question 8: What could cities do to make you increase your recycling efforts?	
R1	<p>Well, I'm fortunate the recycling center is just down the street from my office so it isn't a lot of work. Other drop off locations around town would probably increase their usage. It's kind of a baby project; they take limited stuff, like they don't take food cans, soup cans, but there's a steel recycling plant that does but its way way out at end of city limits. It's weird that they don't have a tote in town that they can fill up and run over there every week.</p> <p>They employ people from the rescue mission who need a little help getting back on their feet; it's also a community outreach thing as well. Part of the limitations might be from who they employ and whether or not they have driver's licenses or can operate equipment.</p>
R2	<p>I don't know? I haven't thought about that. A couple years ago they were going to start fining people for having recycling in their trash. It ended up getting knocked down as an invasion of privacy going through your trash. It's a nice idea but it's hard because of privacy. They do a good job of quarterly sending out flyers, "hey did you know you can recycling this?" Awareness – I just found out that I can recycle bottles with caps. As long as you keep it screwed on the bottle. Educational materials like that.</p> <p>Would you say that they give you good direction on what to recycle? For homeowners they do, but they could do a better job with apartments. I didn't see those flyers when I lived in an apartment. But at home they give you calendars with pickup information and in that flyer, "here is what you can compost, recycle," "here's what you do with things that don't fit those categories." I didn't see that in an apartment; they could do more for non-homeowners.</p>
R3	<p>I'm sure they could do something, but I don't know how. It just comes down to education. Maybe like in school or even at work just letting people know the benefit as it pertains to them personally.</p> <p>It just takes it deeper when you educate people on why x goes into the bin. It's like, here's an example: there are limes in the beer bottles, I couldn't get them out so I was like "ah, I guess I'll just have to throw this into the trash." But normally, if there weren't limes in them, I would have thrown those into the recycling. If I knew the benefits of recycling I may have taken the time to get the limes out to recycle. Instead, I had to go and do whatever and I was busy and moving.</p>

R4	<p>I don't know? I haven't thought about that. A couple years ago they were going to start fining people for having recycling in their trash. It ended up getting knocked down as an invasion of privacy going through your trash. It's a nice idea but it's hard because of privacy. They do a good job of quarterly sending out flyers, "hey did you know you can recycling this?" Awareness – I just found out that I can recycle bottles with caps. As long as you keep it screwed on the bottle. Educational materials like that.</p> <p>Would you say that they give you good direction on what to recycle? For homeowners they do, but they could do a better job with apartments. I didn't see those flyers when I lived in an apartment. But at home they give you calendars with pickup information and in that flyer, "here is what you can compost, recycle," "here's what you do with things that don't fit those categories." I didn't see that in an apartment; they could do more for non-homeowners.</p>
R5	<p>Establish some kind of system that makes recycling easier at home and out in the community.</p>
R6	<p>I think it just goes back to awareness... a serious lack of awareness. One, because it isn't posted anywhere that "this is what happens to the items you recycle." Two, what to recycle, it seems different everywhere you go. They should just sit down and streamline that! Facts need to be set straight and awareness spread. The way they do it now is "you should do it," but there's no "why." They show a picture of wildlife, like a turtle with a six pack plastic ring wrapped around its neck; that's sad yeah, and motivating. But what about a plastic bottle? I don't know where all that goes. If it gets melted down... I don't know what happens to it, I have no idea, but I want to know. How does recycling work, does it work? And why is it done that way?</p>
R7	<p>I still feel like we're learning. We have ours up on the fridge and I still feel like I'm not sure...like wax lined items like milk cartons. But you never get feedback on "are you doing this right?" I think it's really helpful.</p> <p>The other thing I'd say, does recycling make sense for the amount of energy we use to get in a reusable form? To me it's better to do it than not do it. Like how much water you use to wash it out for recycling...I can either dump and rinse it, or sometimes it makes more sense to throw it away. I have that internal evaluation when you have things that. Sometimes they say they don't have to be clean. But I don't know if that's true or not...there could be a good educational component there. Like the peanut butter jar...that could be another piece of knowing what the system needs.</p>

R8	<p>I'm sure there is – you know, maybe an incentive towards something else you would use that you have to get through the city. Maybe the water bill? Something the community could benefit from.</p> <p>Would you prefer personal benefits for yourself, or would you want that to go to the community?</p> <p>I'm all about having a nicer place to live and nicer things for everyone to benefit from.</p>
R9	<p>We already get a list of what can go in there and it's super helpful because you just look there and see it when you throw it in; you know exactly. I think for a lot of people they just aren't sure what you can put in your recycling bin so that could be helpful.</p>
R10	<p>I would probably start recycling if I knew the stuff that should be recycled immediately</p>
R11	<p>I think provide free containers for all. I feel like our city has already done it. I don't know. I just think free recycling, but then I'm afraid people would put garbage in it. I just don't trust people to put the right stuff in the right bin yet.</p> <p>Do you feel like you know what belongs in the bins or is that ambiguous?</p> <p>I do feel like its ambiguous, but California, San Francisco especially, it's very specific. Every can is labeled, but sometimes I just look at it and wonder "wait, what goes where?" I do have a thing for my blue bins telling me what belongs where.</p>
R12	<p>If it said just dump in anything, rather than here's what you can or can't – that makes it harder. You know? Recycling should be painless - that would get a lot more participation because you have to spend it sorting through things rather than dumping it in a garbage can. You used to have to sort, and now you don't and that's the way to go. Here's my favorite story – sometimes people put a couch out on their driveway with a sign that says free. The joke is sometimes nobody takes those things, it just sits there. The solution was that he put \$200 and then someone stole it. When it has no value, nobody takes it. When its assigned value, somebody thinks they're getting away with something.</p>
R13	<p>Yes, you know, I thought that if I recycled, participated... they have places you can take your recycling and get cash. For all the work we put into it, I don't think we should have to pay for it.</p> <p>What word would you use to describe your feeling towards the requirement?</p> <p>Aggravated.</p>
R14	<p>I wish that they made it easier to pick up at your homes, like they do in Minneapolis or other bigger cities. Then we would recycle more things like cans.</p>

R15	I would have a suggestion for the city and all these green orgs, they should have a big 18 wheeler and people over at the dump to sort things there for everything that could be recycled. There's so much that could be recycled, but because of expediency people just put it in the dump.
R16	<p>We're recycling. We're asked to and we do, but more education in the message could help. The plastics, all the numbers - that could be overwhelming. Can they come up with one kind of plastic? No caps? I guess separating all these plastics is a major problem and also a big pollutant because they don't degrade. Recycling aluminum, now that's the easiest one. Glass is second easiest. But aluminum is valuable. You know that's always going to work and saves a lot of recyclables.</p> <p>When we were kids, we recycled. We had milk bottles we reused over and over. We even took beer bottles back! We returned the case of empties for every bottle of beer we drank. Then they suddenly had bottles that you couldn't return. That's what I'm saying - we're so wasteful. Beer, milk bottles...soda bottles, same thing. We used to go down to the local soda place get cases of soda, take the empties back. Dad used to stop on the way back from work. He'd pick up 6 bottles in a steel case, and he'd take the empties back and get refills. They don't do that anymore - and that was everybody! That's how we lived, we recycled. Now we're trying to relearn how to do that in a different way.</p>

Question 9: The following are messages that can be found in recycling materials from various cities around the U.S. Please indicate to what extent the following messages motivate you to recycle, using the following scale: 1-Not motivating at all, 2-Slightly motivating, 3- Moderately motivating, 4-Very motivating, 5-Extremely motivating.

Utilitarian Collective Rewards	Your recycling efforts help to reduce trash sent to landfills and save natural resources.	Why?
R1	4 - Very motivating	I think that that's a common thing you see everywhere, you're kind of desensitized to it. It's a hot phrase that loses its meaning; people hear it but they don't listen to it.
R2	3 - Moderately motivating	I feel like it's pretty basic and boiler plate kind of, just thrown out there all the time. I think more detail would be more motivating.
R3	2 - Slightly motivating	Honestly, if I heard that statement nothing would change my life. Unless I heard that right when I was cleaning the bottles from last night - then maybe I would have taken more time to get the limes out for recycling.

R4	4 - Very motivating	
R5	5 - Extremely motivating	I guess again, just my main motivator is the environmental impact. Not that I necessarily need to be reminded, but it does help remind how it impacts what's around it.
R6	3 - Moderately motivating	I mean, saving natural resources is huge and very important. I can't speak to reducing landfills, obviously that takes up space.
R7	5 - Extremely motivating	I think the motivation there is it's just such a simple thing to do - just leaving the smallest footprint that I can on the earth and also I think I feel guilty not recycling, too. The opposite of recycling is feeling like I'm really lazy and not doing my part.
R8	3 - Moderately motivating	That was everything they ever pushed on us in elementary school – they pushed this when I was in fourth grade and that was their key point.
R9	3 - Moderately motivating	Because it's motivating, but not the most motivating. Keep things out of the landfill, but I'm not sure that message alone would motivate me to recycle the most.
R10	3 - Moderately motivating	Just because it's saving natural resources.
R11	4 - Very motivating	
R12	4 - Very motivating	
R13	4 - Very motivating	
R14	4 - Very motivating	It reminds you that it's for a good purpose.
R15	5 - Extremely motivating	Being a person with two houses who puts the trash out, I marvel at how much we throw out on an individual basis. It's literally a trash can per person. To me, that's an awful lot. Growing up, we'd have two barrels and seven people living in the house. Nothing close to the kind of trash we're putting out now on a per capita bases. So I just kind of look, we've become such a throwaway society, it's not a sustainable society for mankind.
R16	5 - Extremely motivating	That's' a good part of it.

Question 10: The following are messages that can be found in recycling materials from various cities around the U.S. Please indicate to what extent the following messages motivate you to recycle, using the following scale: 1-Not motivating at all, 2-Slightly motivating, 3- Moderately motivating, 4-Very motivating, 5-Extremely motivating.		
Knowledge What & How	Here is a list of what can go in your recycling bin and what cannot.	Why?
R1	5 - Extremely motivating	I always get that wrong – then they tell me “sorry, we can’t take that.”
R2	5 - Extremely motivating	We have that on ours, each bin has a sticker that tells me exactly what I can put in, and that’s definitely helpful.
R3	3 - Moderately motivating	I question what could be recycled, for sure.
R4	5 - Extremely motivating	Makes it really clear. If I didn’t have this I wouldn’t use it as well as I could.
R5	4 - Very motivating	Just the ease of it, having things outlined makes it simpler for me so that it helps the process along. It’s not necessarily motivating or exciting, but it certainly helps.
R6	5 - Extremely motivating	I would know that I’m doing the right thing, and I already have a mentality that recycling is good so I just want to make sure that I’m doing the right thing.
R7	4 - Very motivating	I don’t think it motivates me, but it’s an educational piece.
R8	1 - Not motivating at all	Would you say you have a good understanding already of what to recycle? Yes.
R9	4 - Very motivating	Because you see it right in front of you, so you know what you can put in there; it’s a mind connection, can visualize it.
R10	1 - Not motivating at all	‘Cause I probably have that list already...yeah, I’m not highly motivated by this.
R11	5 - Extremely motivating	Just because the more information you provide the more likely people are to do it. I think people will be surprised by what is recyclable and what isn’t.
R12	2 - Slightly motivating	It’s just not motivating. It’s sort of demotivating a little bit.
R13	3 - Moderately motivating	

R14	5 - Extremely motivating	I think that kind of pushes you to make sure what goes in the bins if you have a list.
R15	4 - Very motivating	It would certainly help, but I'm not sure people pay attention to it. It's actually written on the side of our cans. My frustration is when I find a whole bunch of things in the trash that should be in the recycling, and vice versa. So I've got to kind of educate my own tenants. They could probably emphasize it more.
R16	5 - Extremely motivating	They give us this card we can reference and we always go back for the plastics.

Question 11: The following are messages that can be found in recycling materials from various cities around the U.S. Please indicate to what extent the following messages motivate you to recycle, using the following scale: 1-Not motivating at all, 2-Slightly motivating, 3- Moderately motivating, 4-Very motivating, 5-Extremely motivating.

Utilitarian Individual Punishment	If you do not separate your recyclables from your trash, the city will fine you.	Why?
R1	5 - Extremely motivating	Nobody wants to be fined.
R2	5 - Extremely motivating	Nobody wants to get a fine. Plus, ours goes through our landlord and we might get charged even more. Don't want to waste money either.
R3	4 - Very motivating	It affects me personally, like there's a direct consequence to me – that's why.
R4	3 - Moderately motivating	I mean, knowing how it went in Seattle I think it turned a lot of people off a little more to the idea. You're going to go through my trash? I don't feel like it played out very well. The threat of the fine wasn't scary enough. My husband felt that it was an invasion of privacy.
R5	5 - Extremely motivating	I mean, the monetary fine is never fun. Especially because I work at a nonprofit, so I don't have money to spare - for not recycling.
R6	5 - Extremely motivating	It's an easily avoidable penalty, but they would need to tell me what I need to do and I'll do it.

R7	2 - Slightly motivating	I think part of it is probably based on skepticism that the city would even be able to manage that. But I would also hope that people do it because they want to and not for fear of a fine. Let's say the city can monitor and enforce that. Would it motivate you to comply then, or not? I already comply. Comply even greater? Yes, that would motivate me.
R8	1 - Not motivating at all	If they did fine you, would you participate? They wouldn't like me. I'd give them a hard time, I'd be pissed (laugh). That would push me to not recycle, out of spite.
R9	4 - Very motivating	I wouldn't want to be fined.
R10	5 - Extremely motivating	Because you're putting a financial burden on me.
R11	5 - Extremely motivating	I think it's a great idea – as long as you provide correct information about what can be recycled and what can't.
R12	1 - Not motivating at all	Overzealous. Coming at it wrong.
R13	1 - Not motivating at all	In San Francisco there were some bottles that got into the garbage, and they left me a note that "if you don't recycle properly we're going to stop picking up your garbage." Not motivating at all.
R14	5 - Extremely motivating	I wouldn't want to be fined; I would recycle to avoid the fine.
R15	3 - Moderately motivating	I'm not so concerned about the fine, but if the city were active I'd be much more concerned. I don't think I've ever heard of people being fined. It's probably pretty rare. For me it's not an imminent threat. I wish the city would do that a lot more. The city has put a tax on plastic bags of a Nickle, so at a grocery store they'll charge for plastic. It goes to cleaning the bay and that has made a huge difference in terms of plastic used and coffer for the water shed.
R16	3- Moderately motivating	I don't like the idea of fining anybody; that angers me I guess. It wouldn't stop me from recycling, but it certainly wouldn't motivate me.

Question 12: The following are messages that can be found in recycling materials from various cities around the U.S. Please indicate to what extent the following messages motivate you to recycle, using the following scale: 1-Not motivating at all, 2-Slightly motivating, 3- Moderately motivating, 4-Very motivating, 5-Extremely motivating.

Ego Defensive Implicit	The average person generates seven pounds of waste each day, half of which could be recycled.	Why?
R1	5 - Extremely motivating	It's essentially telling you you can reduce you waste by half, that's a lot. Even seven pounds is a lot. Is it correct to say that you view less waste positively? Yes, generating less waste is good.
R2	5 - Extremely motivating	If you think about how much you're throwing away and half should go in the recycling versus waste bin.
R3	3 - Moderately motivating	This would be new information for me.
R4	5 - Extremely motivating	That's a cool stat. Tradeoffs are interesting to me. I'm an engineer so data helps my brain.
R5	5 - Extremely motivating	This one really brings it from a global perspective to a personal one, exactly how I'm affecting the larger process, which is a good illustration.
R6	4 - Very motivating	Not doing the right thing – you should do the right thing - something that can be easily fixed if the right information is distributed.
R7	2 - Slightly motivating	I do it not based off of...I just do it for my own reasons and that's not necessarily something that motivates me.
R8	3 - Moderately motivating	
R9	4 - Very motivating	It paints a real clear picture of the amount of stuff that's going into landfills that you can imagine, and that makes you think about what you're throwing away. "Oh, I could recycle this instead of throwing it away."
R10	3 - Moderately motivating	Because you're quantifying it. That's not something that I've seen done before.
R11	5 - Extremely motivating	People don't realize what they can recycle. They are uninformed.
R12	4 - Very motivating	It helps you see the potential. I can immediately grasp this one.
R13	3 - Moderately motivating	
R14	3 - Moderately motivating	Most people are aware of that does have an effect, but I think there are other reasons to recycle other than hearing that.

R15	4 - Very motivating	I can easily recognize that when you start compounding that ton on an annual basis, over a lifetime; that it's not a sustainable practice for mankind over time and it's never been as bad as it is right now. You've got a booming population, huge energy consumption, and a huge amount of waste created in the process and we must develop a strategy that is totally recyclable or that products break down so that we have as minimal amount of waste as possible.
R16	4 - Very motivating	Well, speak for yourself! That's a fact? Do you like having information about what your impact is? Yeah, if I could believe that!

Question 13: The following are messages that can be found in recycling materials from various cities around the U.S. Please indicate to what extent the following messages motivate you to recycle, using the following scale: 1-Not motivating at all, 2-Slightly motivating, 3- Moderately motivating, 4-Very motivating, 5-Extremely motivating.

Value Expression	Your recycling efforts reflect your values as an environmentally-conscious person.	Why?
R1	3 - Moderately motivating	That feels judgy to me.
R2	4 - Very motivating	It kind of makes me feel like I should do more. If this is reflecting my values then I should probably take it more seriously or think about it more, to throw in the left side instead of the right side.
R3	3 - Moderately motivating	I don't really consider myself an eco-conscious person.
R4	4 - Very motivating	Probably in the middle – edging towards hard core. But not militant.
R5	3 - Moderately motivating	While I agree with this statement, it seems a little shaming. It feels like someone is telling me if I don't recycle, I'm not an environmental person. Not that I disagree with that, but it's just a strange message to me.
R6	4 - Very motivating	If my values are already in the right place I want to be seen for the values that I already hold.

R7	5 - Extremely motivating	Even if there are times when I'm less conscious than I'd like to be, I feel like recycling reinforces my belief that I am environmentally conscious and that makes me feel good and that's worth it.
R8	2 - Slightly motivating	I wouldn't consider myself in that category of environmentally-conscious.
R9	3 - Moderately motivating	For me recycling is second nature, I'm already doing it. I don't really need someone to be telling me that. That probably...yeah.
R10	1 - Not motivating at all	Trying to guilt me into something isn't going to make me do it.
R11	5 - Extremely motivating	Especially people in California – although my best friend next door doesn't recycle a damn thing and it drives me crazy.
R12	1 - Not motivating at all	Sort of off-putting. Just that, it's trying to paint too much into it. Put too much into it somehow, making a statement about you which just seems sort of out of bounds. It implies the opposite if you aren't making an effort at that particular time, then you aren't environmentally conscious. Not a motivating one.
R13	1 - Not motivating at all	
R14	4 - Very motivating	I think it kind of pushes you to feel good about yourself from recycling.
R15	5 - Extremely motivating	I don't know if that would be motivating, but yeah.
R16	4 - Very motivating	

Question 14: The following are messages that can be found in recycling materials from various cities around the U.S. Please indicate to what extent the following messages motivate you to recycle, using the following scale: 1-Not motivating at all, 2-Slightly motivating, 3- Moderately motivating, 4-Very motivating, 5-Extremely motivating.

Utilitarian Collective Punishment	Each year, it costs the city 1 million dollars to remove recyclables from citizens' trash for recycling.	Why?
R1	4 - Very motivating	Depends where the money is coming from. Is it coming from my taxes? Because that would make a difference to me.
R2	5 - Extremely motivating	Because our taxes here are extremely high. It's just disappointing.

R3	4 - Very motivating	The city should not have to be spending so much money on this stuff. You could use that money better elsewhere, but obviously you would need to get more people to recycle.
R4	3 - Moderately motivating	<p>Not too much. For living in the city there is a lot of government waste as it is. 1 million dollars isn't a shocking number when they're wasting money on other boongoggles...I would do it anyway, but that's not a shocking number.</p> <p>What does boongoggles mean? I haven't heard that term before.</p> <p>Boongoggles means something that isn't leading to anywhere.</p>
R5	4 - Very motivating	Mostly because it illustrates how wasteful that practice is of our city money. We could use it for something more meaningful than something that we could just do on our own, for free.
R6	3 - Moderately motivating	There's always a bigger city that's contributing more. But it can still be reduced.
R7	1 - Not motivating at all	I think there's kind of a "so what" element? It impacts you indirectly, but you don't see the costs of that - to you as an individual with a number this big. It seems nebulous to an individual.
R8	1 - Not motivating at all	
R9	4 - Very motivating	You probably want them spending that money on something beneficial for everyone. If people just did what they were supposed to be doing that money could be saved for something else.
R10	3 - Moderately motivating	Again, a quantitative value on what it costs. Those dollars could be used for something else.
R11	5 - Extremely motivating	Well, because that money could be used on youth programs and other things. It's wasting money.
R12	4 - Very motivating	A waste of tax dollars.
R13	1 - Not motivating at all	I'm paying for it anyway.
R14	4 - Very motivating	When you realize how much money it's costing, that's probably our tax dollars paying for that and our money could be spent towards something else.

R15	4 - Very motivating	<p>The question is what can they sell it for? If it isn't sold then we're wasting a ton of recycling that only gets dumped in the same spot, which means the strategy isn't working. Unfortunately that seems more the case. Not only are we spending money to separate and collect it, but it's thrown together again at the end. Doesn't make sense at all. Motivating to work to improve that strategy. Not all green agendas work, but you can't develop one that works against itself.</p> <p>I donate to Greenpeace, telling them that I'll continue supporting as long as they don't send me things in the mail.</p>
R16	3 - Moderately motivating	<p>That's surprising, they say its costs, but to remove...aren't they getting something back, too? I mean they sell the recyclables, too. I would wonder if they're not talking about the bottom line. I'd hope things are at least neutral. Somebody makes money off it. Those are our tax dollars. That's the great thing about recycling – there's value to it. Paying for it? Recycling is better than starting all over again.</p>

Question 15: The following are messages that can be found in recycling materials from various cities around the U.S. Please indicate to what extent the following messages motivate you to recycle, using the following scale: 1-Not motivating at all, 2-Slightly motivating, 3- Moderately motivating, 4-Very motivating, 5-Extremely motivating.

Utilitarian Individual Rewards	Each time that you put recycling out for collection, the city will reward you with \$10.	Why?
R1	5 - Extremely motivating	<p>Pay me to do something I already do? Why not?</p> <p>Would another reward besides money appeal to you? Not off the top of my head.</p>
R2	5 - Extremely motivating	That would be amazing, we'd be rich.
R3	4 - Very motivating	It directly affects you – whether it's a reward or a punishment; it's a direct reflection of your actions.
R4	4 - Very motivating	<p>Would there be other awards you'd be interested in?</p> <p>It would be cool for them to provide the bio-bags that we buy for compost. If you're participating you'll get these little benefits so that your bin doesn't get disgusting.</p>

R5	3 - Moderately motivating	It kind of relates to being fined. While I don't want to receive a fine, I'm not looking for a monetary reward for recycling. I think it should just be something that is expected from everybody, not rewarded with money.
R6	4 - Very motivating	It's a quick reward - more incentive to just do it.
R7	5 - Extremely motivating	(laugh) Who doesn't love free money, especially when you're already doing it!
R8	5 - Extremely motivating	
R9	3 - Moderately motivating	What if there was another incentive other than money? No, I don't think so. In my mind, it wouldn't make a difference because I'd still do it anyways, but I guess it would be nice to get 10 dollars.
R10	3 - Moderately motivating	Because it's a financial gain at the end, but it's not a huge reward, so...how do you determine if I've put out enough? What if I just put out half? I get \$5? My association picks it up twice a month, so that wouldn't as motivating than it would be for someone every week. How do they determine that?
R11	5 - Extremely motivating	Especially to my friend next door because a lot of people are money driven and they like rewards. We all like our Macy's rewards...you know? I mean yeah, I think it would be awesome. Even if they just took \$10 off your bill.
R12	5 - Extremely motivating	Hey, get a personal benefit. Always motivating. You know? Direct, measurable, personal benefit. Are you less motivated without a reward? When you do get rewarded I'd say you're more motivated. It would be an unexpected benefit – like getting a tax break when you contribute to charities. You know you're doing a good thing, and then you get a financial benefit too that's just double good. That's how I see it.
R13	5 - Extremely motivating	
R14	5 - Extremely motivating	Who wouldn't want an extra 10 dollars here and there for something you're already doing?
R15	5 - Extremely motivating	Well I do It anyways so that would be really motivating (laugh).

R16	1 - Not motivating at all	<p>I don't know if this is a good idea. Could they pay me? I wouldn't feel comfortable taking money for that. I wouldn't even like that because the whole idea is to make this work – if they paid me I'm certain they'd tax me in order to find funds to pay me. So I don't think there would be a financial gain. But whoever does the recycling should get the profit to pay their employees and support their families. Me? No. It's all on the individual. I imagine there are people who could care less who are lazy.</p> <p>Recycling isn't just doing the recycle job itself. It's also putting people to work- so I actually think it's a benefit to the country and puts people to work. For the bottom line.</p>
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Question 16: The following are messages that can be found in recycling materials from various cities around the U.S. Please indicate to what extent the following messages motivate you to recycle, using the following scale: 1-Not motivating at all, 2-Slightly motivating, 3- Moderately motivating, 4-Very motivating, 5-Extremely motivating.

Knowledge Why	Recycling one ton of office paper can save the energy equivalent of consuming 322 gallons of gasoline.	Why?
R1	3 - Moderately motivating	I could take it or leave it.
R2	3 - Moderately motivating	<p>I don't really use office paper, rarely if ever. It's hard for me to make a personal difference.</p> <p>What if that tradeoff were something you do use? Then I would say extremely motivating. Knowing a tangible result for something is what is really motivating to me versus a general statement on landfills. Something with a hard fact is really motivating.</p>
R3	3 - Moderately motivating	
R4	4 - Very motivating	The idea of saving that much gas – I bike a lot for the same reason and I carpool to save gas and putting it in terms of gallons of gas instead of carbon, that's slightly more tangible than the pollution part. We all think in gallons of gas and how much that costs.

R5	5 - Extremely motivating	Specifically, in my line of work, we go through tons and tons of paper. It illustrates for me a clear picture of how recycling is making an impact.
R6	3 - Moderately motivating	We should be looking at non-gasoline...or ways to reduce gasoline use. I think another motivating fact or information that would help me and others alike recycle better or more effectively is how everything gets recycled and into what, and what percentage of everything gets recycled...where it goes and what happens to it. And also, specifically what it's doing to our environment. I don't think everyone knows where the nearest landfill is, or how big the problem is because not everyone knows where this trash is going.
R7	1 - Not motivating at all	The numbers seem so big and it doesn't translate to action for me as an individual.
R8	3 - Moderately motivating	What I'm seeing is benefits to everyone else but me. So OK, office paper is for work. I didn't buy that paper, that's the company paper. So I don't really care about that – it's for their benefit. Whose gas? I don't see the benefits to me with this.
R9	2 - Slightly motivating	It's almost too much information.
R10	2 - Slightly motivating	Again, it's a quantifiable number. But those numbers don't mean a whole lot to me, but its quantifying it somehow... because I don't know what one ton of paper looks like. Have a visual of what a ton of paper vs 322 gallons of gas looks like.
R11	3 - Moderately motivating	I strongly think it is.
R12	2 - Slightly motivated	It's just, the scale of it is just hard to really grasp. Right? It makes you think, what does a ton of paper look like? Not immediately clear exactly how big that is.
R13	3 - Moderately motivating	
R14	3 - Moderately motivating	Even though you know it's saving, it's one of those things that doesn't seem to affect you personally. Office paper is going to be used anyway, you're going to buy gas anyway.
R15	4 - Very motivating	I'm recycling paper anyway - the big thing is not to waste it.
R16	5 - Extremely motivating	That sounds really motivating.

Question 17: The following are messages that can be found in recycling materials from various cities around the U.S. Please indicate to what extent the following messages motivate you to recycle, using the following scale: 1-Not motivating at all, 2-Slightly motivating, 3- Moderately motivating, 4-Very motivating, 5-Extremely motivating.		
Social Adjustive	The city has a goal of reducing waste and increasing the recycling rate to 90% by 2030.	Why?
R1	4 - Very motivating	I would like to be a part of that effort. It's a good goal for the consuming public.
R2	2 - Slightly motivating	<p>It doesn't tell me what we're at now. Are we at 89%? How far do we have to go to make a difference?</p> <p>Let's say you have that information, how appealing is contributing to a city goal?</p> <p>Seeing updates would be motivating in general to see numbers going up and up. Or I guess down or whatever – it's measuring your efforts.</p>
R3	1 - Not motivating at all	It's not going to affect me.
R4	3 - Moderately Motivating	More because, I guess, in Seattle there isn't a very strong sense of community. You don't really know your neighbors well; people don't say hi to each other. So the idea that we're going to do this and be a big team about it - I can understand that what I do contributes, but how it relates to the city as a whole would be harder to be motivated for.
R5	4 - Very motivating	Mostly because I would envision with this type of marketing campaign, that if it's the city's goal they would establish a system to make recycling easier at home and out in the community. So that would be very motivating to me making it more visible and easier for me to recycle.
R6	3 - Moderately Motivating	It's an achievable goal, let's get it done.
R7	1 - Not motivating at all	For me as a person, it's very hard for me to think that far out. Even if that number were 2020 that number would seem...it doesn't translate into actual actions that I can take into my daily life. It's still at a very high level and I like more prescriptive type things - little things that I can change, instead of a grand goal without the "how." It seems very grandiose.

R8	2 - Slightly motivating	Where's my benefit?
R9	3 - Moderately motivating	It just seems real far in the future and I don't really know how that affects me, necessarily.
R10	1 - Not motivating at all	It's not a personal goal. There's no gain...it's not telling me about what happens if they hit that number or if they don't. And how do you know they hit 90%? Well yeah, but what does that mean?
R11	4 - Very motivating	
R12	1 - Not motivating at all	<p>How do I say it? I don't place a lot of weight in whatever the cities goals are.</p> <p>Can you tell me more about that? Have you had experiences like that in the past? I just envision this zealous bureaucrat imposing their will on the whole program. Right or wrong, that's pretty cynical, but that's my read. That could be much more impactful if it weren't the city. Like if it were something else...it's just that source.</p> <p>How about a county or state level? I don't think so. It seems random. 90%</p>
R13	3 - Moderately Motivating	
R14	4 - Very motivating	It kind of pushes you to see if we can hit that 90% and be a part of that.
R15	5 - Extremely motivating	Presumably they would have a strategy that would reach total recycling. Anything that would be produced would have it regenerated, recycled or back into nature. That 2030 is a little late. We need a 2020 version.
R16	3 - Moderately motivating	I just can't – so much goes into recycling that I find that almost impossible to do. I guess I don't believe that that can be done. I don't think there is any effort that can make that work. Unless you go back to the manufacturing side of it and convince people who are packaging things to use recyclables and use a single kind of plastic that can be recycled – no question.

Question 18: The following are messages that can be found in recycling materials from various cities around the U.S. Please indicate to what extent the following messages motivate you to recycle, using the following scale: 1-Not motivating at all, 2-Slightly motivating, 3- Moderately motivating, 4-Very motivating, 5-Extremely motivating.

Social Identity	You can become a recycling leader in your neighborhood and educate your neighbors on how to recycle.	Why?
R1	1 - Not motivating at all	That doesn't not sound appealing to me (laugh).
R2	3 - Moderately motivating	Personally, I don't know that I would take the initiative to do that knowing my time, schedule. That would make me feel bad, like I should do more, but I don't know that I actually would.
R3	1 - Not motivating at all	
R4	2 - Slightly motivating	I don't know my neighborhood, really. How would you feel being known as a resource in your neighborhood for recycling? I'd be ok with that I guess as a message, but I'm a pretty strong introvert, so taking that on would be really tiring for me.
R5	2 - Slightly motivating	I just can't really envision myself going out into my community and educating people on recycling. Maybe because where I live its already prevalent. But I imagine that being a little obnoxious of me.
R6	1 - Not motivating at all	Everyone should just do their own thing. Nobody wants somebody in their face, it's less motivating.
R7	3 - Moderately motivating	The idea of being a leader and that whole educational component is very enticing, and yet, I just think about the logistics and time commitment and peoples' willingness to change their habits. I'd put it in the middle rather than the extremely motivating side.
R8	1 - Not motivating at all	Nah no, no! I have enough going on in my schedule. If I had time for that, I'd get a lot of other things done first. That's a good retiree job, with incentive – maybe a free bus ride to the casinos in exchange for work like this (laugh).
R9	2 - Slightly motivating	Doesn't sound like something I would do. Everybody's spread so thin.
R10	1 - Not motivating at all	I am not a leader in my neighborhood and I don't really want to get involved. Not with that! (laugh)
R11	1 - Not motivating at all	

R12	1 - Not motivating at all	I mean, I'll do it but I don't want to be a leader or teach it or anything. I just have other priorities, like get to work (laugh).
R13	1 - Not motivating at all	I don't want to be called the trash lady who's living down the street.
R14	3 - Moderately motivating	Personally, I wouldn't be one inclined to do that unless it were at a meeting where you were asked to speak. Reaching out to neighbors wouldn't be something I would do.
R15	3 - Moderately motivating	I do have some control because I have tenants. When I see things in the wrong bins, I send messages. 1. It's the right thing to do 2. We could get fined. For your future and everybody's future please recycle. I don't go around to other houses. Generally our block is reasonably in tuned, but nowhere near what they could be. But I don't want to take on everybody else's job.
R16	2 - Slightly motivating	I'm not a motivator for anyone else.

Question 19: The following are messages that can be found in recycling materials from various cities around the U.S. Please indicate to what extent the following messages motivate you to recycle, using the following scale: 1-Not motivating at all, 2-Slightly motivating, 3- Moderately motivating, 4-Very motivating, 5-Extremely motivating.

Ego Defensive Explicit	It is your responsibility to recycle.	Why?
R1	3 - Moderately motivating	I feel like in a lot of places people know it's something they should do, but they won't go out of their way because it won't make a difference to them. In our house, if it was up to my husband it wouldn't happen; he'd just take it to the dump.
R2	1 - Not motivating at all	I feel like it's very, 'duh, everyone knows that they should do this.' Everyone knows this. A factor of guilt would be more motivating...like numbers, or what you're creating by recycling is a lot more motivating.
R3	2 - Slightly motivating	
R4	3 - Moderately motivating	Compared to many of the others, "this is your job" and it's a little... It doesn't give a reason behind it other than we all know what recycling is. It isn't adding anything new to the idea of recycling.

R5	5 - Extremely motivating	I completely agree, but for me personally. I'm not sure that would work for everybody the same.
R6	3 - Moderately motivating	It's just like 'duh, everybody knows that' and the motivation is already there. Its more the 'what' needs to be recycled that isn't like 'duh.'
R7	5 - Extremely motivating	It's the least I can do for generating the amount of waste I'm creating.
R8	3 - Moderately motivating	Ultimately, it's up to you. You're going to do what you got to do. Benefits to earth, the whole reason you should be doing it - absolutely you should be doing it. And it is a good thing. Essential resources used up – I think? That's what they tell ya. But you're still saving mother nature more than if you used up new materials.
R9	3 - Moderately motivated	I think everybody already knows that, I mean, most people.
R10	2 - Slightly motivating	Again, it's almost that guilt isn't going to matter, but it truly is my responsibility.
R11	1 - Not motivating at all	People don't generally care – I mean, I don't know... I just think there has to be some kind of reward first and then it just becomes habit. They don't see the big picture; they just see how it suits them. Nobody gives a shit.
R12	3 - Moderately motivated	I agree with it, but it doesn't necessarily motivate me a lot. It's kind of like someone telling me, "eat your oatmeal," you know?
R13	4 - Very motivating	That is a true statement.
R14	4 - Very motivating	That's kind of why we do it. Doing your part.
R15	5 - Extremely motivating	Because it is each and every one of our responsibilities to do it. It's also the responsibility of manufacturing to make things... and this is in the future...I mean we're polluting our own food chain.
R16	5 - Extremely motivating	Everybody should be preached to on this from the day we're born.

Question 20: Based on the messaging that you rated as the most motivating, do you believe this will impact your participation in recycling going forward?

R1	Yeah, I think so -
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R2	<p>Yeah, I mean I do feel like I generally take it pretty seriously on a personal level. I, our household - we take it seriously. They're good reminders about making conscious choices instead of throwing something out in the nearest trash can. That can benefit me and a lot of people around me.</p>
R3	<p>Yes –</p> <p>In what way, or to what degree? I mean, I wouldn't change much - I just might make a little extra effort. I think a big part of it really is...I think that the direct consequences (reward and punishment) are the most effective ways of immediately getting me to more regularly be conscious of recycling and put that extra effort in. In the long-term I think it comes back to education, and being reminded – re-education</p> <p>To keep it top-of-mind? Yeah, because that's when I think morality kicks in – you want to do the right thing. I'd say the majority of people want to do this, but if people forget how it impacts community, earth, individuals, you don't see not recycling as a wrong. Right? Because you're just not thinking about the effect - you live a busy life; I want to throw the trash out and move on. But if you know how it really helps, then you want to do the right thing, morals are going to impact their actions and if it were me then I would make more of an effort to recycle.</p>
R4	<p>Yeah – I would imagine some of it would be new information, and the interesting factor. Ok I'm doing this, and why.</p> <p>Knowing why would be important to you? Or do you feel you already know that? Gallon of gas is actually pretty impactful because it makes it more tangible - what the outcome of the activity is.</p>
R5	<p>I would have to say, no – only because I already recycle everything. So while it would reinforce that I'm doing the right thing, it wouldn't necessarily change what I'm doing.</p>
R6	<p>Yeah completely, because it's like I don't want to get fined. It's just another penalty and I already feel like there are enough of those.</p>
R7	<p>Yeah, there's always room for improvement, I feel like.</p>
R8	<p>Um, yeah. I'm kinda already set in my ways – we do it – but it would be a nice little bonus.</p>
R9	<p>I think so.</p>
R10	<p>Yes, but I guess “how is it going to impact me?” “What if I don't get everything recycled properly?” But I would probably start recycling the stuff I knew should be recycled immediately.</p>
R11	<p>Yes</p>

R12	Man, I don't think it would. We do it; we couldn't do it anymore than we already do. So, it really wouldn't, but based on these, not of these messages would change our behavior. But we're just compliant already. So you don't really need any more. But there are groups of people who don't try and then these may or may not motivate them.
R13	<p>I think it would make me feel more appreciated as a consumer, that I'm trying to recycle. I don't feel appreciated for the work. I mean I hate recycling, the work itself. The separate buckets under my sink. You're uncle doesn't recycle so I have to pull stuff out of there.</p> <p>Do they have requirements for preparing the recyclables before you but the in the collection bin? I believe you're supposed to rinse it out but I don't</p> <p>Do you feel that you know what to put into the recycling? Yes, it's clear what I should put in each bucket.</p>
R14	Yes – That would give you a little bit more motivation to make sure you're doing it all the time.
R15	Yes. If someone gives me financial compensation, I think it would make everyone a little more in tune to that, as sad as that is. Or what we have is people willing to do it for you.
R16	Yeah, I don't think I need that, but I think any one of those certainly in my opinion would keep me doing what I'm already doing.

Question 21: Which of these two sentences appeal to you the most? Why? 1. We can prevent pollution, together. 2. You can make our environment cleaner.		
R1	You can make our environment cleaner.	<p>The second one. "We" is inclusive, but you don't have to include yourself; you don't have to. The second one puts it on the user. Something you can actively do to make a change and difference. Can't leave it up to someone else to take care of - not giving them the opportunity to exclude themselves.</p> <p>Would you respond to this? Yeah.</p>

R2	You can make our environment cleaner.	Directed at me - “to you” makes me feel, like, more motivated to do something. More aware. I also think the general act of keeping something clean sounds more achievable than the other one. Pollution is so general that people...sometimes when I think of that I think that can’t be affected. I don’t think of recycling as general pollution, obviously it is. Clean says, “oh yeah, we need to do something.”
R3	You can make our environment cleaner.	<p>Second one – because it’s more positive. The words are more positive.</p> <p>How about who the message is directed towards? Does “you” or “we” resonate more?</p> <p>You are – it’s more personal. When you say ‘we’ it’s not personal enough it’s a group of us and I’ll just let “them” recycle. “You can make the environment more clean,” it just feels like my responsibility. When you say “we,” I’m not forced – it’s part of ownership and its directed towards me specifically. With “we” you are one in a wide group of people and its – you don’t feel it’s as much your responsibility because someone else will do it. Like working on a group project – if you assign individual tasks I feel like it’s my obligation to do that. If not, there’s always that one person who thinks, “I don’t have to; someone else will do it on the team.”</p>
R4	You can make our environment cleaner.	Second one, I think it just puts a little stronger sense on the personal responsibility of it. By saying “we” I can say I’m part of it and contributing, but not, I don’t know... You can kind of detach yourself from that. But “I’m contributing by...”
R5	We can prevent pollution, together.	Preventing a negative impact seems more powerful than the second message.

R6	You can make our environment cleaner	The first one is more competition inducing and not everyone wants to be competitive about it because that's going to be less motivating. The second one is more open to every form or effort toward recycling more is welcomed.
R7	You can make our environment cleaner	Interesting... it's the collective vs the individual. I think in a case like this, I don't know if the community piece is as effective as an individual feeling accountable. In this case putting it on the individual is probably the most effective. I think when its "we," it's easier to put it off on someone else. It doesn't feel as urgent.
R8	We can prevent pollution, together.	Number 1: because it's referring to a group, not just pointing out you – "this is all riding on you."
R9	We can prevent pollution, together.	It sounds more unifying. It's an effort from everybody and not just one person, and sounds more positive.
R10	We can prevent pollution, together.	Because it's a team effort. It's more, not calling out one person because it is one person's responsibility, but at the same time these things probably work better if it's done as a team. If people guilt me, you know, then I probably should.
R11	We can prevent pollution, together.	The word pollution affects more people than recycling. When people hear pollution it sounds like they're doing something better than recycling.
R12	We can prevent pollution, together.	Because it's we – the other one is less appealing because it's telling me to do more. It tells me it's my job. It's not my job to do it all the time.
R13	We can prevent pollution, together.	The second one sounds kind of negative, "you are responsible for this." The first one is a more hopeful line, saying we can do this together. It isn't just pollution, it's the environment.

R14	You can make our environment cleaner	I think because it puts the responsibility on the person. When you say “we,” a lot of times, people don’t always get involved. It becomes everybody else. The other one hits home personally, you are the one responsible, you can make a difference.
R15	We can prevent pollution, together.	Because there’s no way I can do it all myself. There’s no one person or small group that can do it all. It has to be a society, political and industrial effort coming together.
R16	You can make our environment cleaner	We all create pollution. I already do it, and I’m not into pushing others to do it, that’s their conscience. But whatever motivates each person, what gets them going...I agree that we’ve all got to do it.

Question 22: What year were you born?	
R1	1989
R2	1989
R3	1988
R4	1988
R5	1988
R6	1987
R7	1983
R8	1982
R9	1981
R10	1975
R11	1967
R12	1958

R13	1953
R14	1952
R15	1951
R16	1946

Question 23: What is the highest level of education that you have completed? High school, some college, technical or associate's degree, bachelor's degree, some graduate school, graduate or professional degree?	
R1	Bachelor's degree
R2	Bachelor's degree
R3	Bachelor's degree
R4	Bachelor's degree
R5	Some college
R6	Bachelor's degree
R7	Bachelor's degree
R8	High school
R9	Bachelor's degree
R10	Bachelor's degree
R11	High school
R12	Graduate degree
R13	Bachelor's degree
R14	Graduate degree
R15	Some graduate school
R16	Some college